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ABSTRACT

Covered in this report of the 1978 project of the Joint Committee on Printing are aspects of three selected areas. Part one, Management Review and Assessment, contains a summary of management and user interviews, a review of GPO's goals and organizational structure, and an assessment of management systems and procedures. The accounting system is analyzed in the second part, Accounting and Financial Management Assessment. Included are discussions of cost accounting, pricing, billing, and overall accounting procedures, as well as a comparison with industry practices. Technology Use Assessment (part three) evaluates the use of data processing technology, production technology, and micrographic technology. Each of these parts is concluded by recommendations and a summary of observations. The appendix discusses identification and listing of publications produced, stored, and/or distributed by GPO on a free or subsidized basis. (SW)

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CONGRESS OF THE UNITED STATES
JOINT COMMITTEE ON PRINTING

U.S. DEPARTMENT OF HEALTH,
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OCTOBER 1978

REVIEW, ANALYSIS AND EVALUATION OF CERTAIN AREAS AND FACETS OF POLICIES, SYSTEMS, PROCESSES, AND MANAGEMENT OF THE U.S. GOVERNMENT PRINTING OFFICE

PROJECT NO. 101 OF THE JOINT COMMITTEE ON PRINTING

C&L

COOPERS & LYBRAND

IR007254

This is a study encompassing a comprehensive, objective in-depth review, analysis and evaluation of certain areas and facets of the policies, systems, processes and management of the U.S. Government Printing Office Washington, D.C., as described in the Schedule "A" of the Committee's Request for Proposal (Solicitation of Offer), JCP Project NO. 101" dated November 4, 1977.

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

This report is the product of an organizational and management review conducted by Coopers & Lybrand's Management Consulting Services. The study, conducted under contract with the Joint Committee on Printing (JCP), encompassed a comprehensive, objective in-depth review, analysis, and evaluation of certain areas and facets of the policies, systems, processes and management of the U.S. Government Printing Office (GPO). The study, conducted March to October 1978, is known as JCP Project No. 101.

This is a broad study intended to identify for the JCP organizational, managerial, financial, and technological areas for improvement and/or further refinement. By design, the study critically examines certain areas and facets of management and organization while looking at other areas at a more general level. Therefore, in certain areas we have made specific recommendations for action and in other areas we have identified topics for further study.

Organizational and managerial problems, when coupled with public exposure--as GPO has had in the recent past--might indicate that sweeping changes should be made. However, it is our opinion for two reasons in particular, no sweeping changes are warranted. First, our overall assessment is that GPO can take pride in the degree to which that organization has solved or is ameliorating the well-publicized problems of recent years. To be sure, further areas for organizational and managerial improvement exist, and this study touches upon both the successes and areas for further emphasis at GPO. Second, the Joint Committee on Printing has announced its intention to conduct hearings on updating Title 44 of the United States Code (Public Printing and Documents). This, combined with the pending decision regarding a new GPO central facility, suggests that GPO and JCP carefully plan and execute long term changes. Additionally, we believe that the present time is appropriate for a comprehensive study of the full range of Government printing.

PART ONE: MANAGEMENT REVIEW AND ASSESSMENT

I. SUMMARY OF INTERVIEWS

As part of the process of identifying and analyzing organizational, operational, and management problems, Coopers & Lybrand conducted interviews internal and external to GPO. For internal interviews, our objective was to interview a significant number of principal managers in GPO in order to determine their perceptions on GPO's role, functions, and customer service responsibilities. For user interviews, our objective was to conduct interviews with those people and units of user organizations that deal directly with GPO. In most instances, several interviews were held in each user organization contacted.

1. GPO Interviews

All incumbents of the top four organizational levels (Public Printer/Deputy Public Printer/Assistant Public Printer, Service Director/Department Manager, and Division Chief/Division Superintendent) were interviewed by the project staff. In addition, upper field and regional office managers as well as Central Office mid to lower level managers were interviewed when deemed necessary.

Some of the major perceptions and problems noted during these interviews are listed below:

- There was a consensus that Title 44 is in need of revision because it is often ambiguous and does not reflect the current scope of government printing requirements nor reflect advances in printing technology. However, details on which specific sections of Title 44 should be revised were not offered.

- Communications of policies and procedures was considered to be good and adherence to policy and procedures rated strong. Responsibility and reporting relationships appeared to be clearly defined and understood by each person.

- Although top GPO management and formal GPO documentation indicate that priority is assigned according to the nature of the work rather than its source, middle- to lower-level management tends to view the mission in terms of a priority to expedite and complete Congressional printing.

- One area where managers at all levels felt they could use more information was financial reporting. Most upper managers receive a monthly report and detailed briefing from the Financial Management Service. Third and fourth-level managers do not receive such reports or must request them; some managers expressed some concern over timeliness and accuracy. However, these reporting problems were not considered by managers as major barriers to carrying out their responsibilities.

- The field locations operate fairly independently, characterize their contact with Central Office as minimal, and feel little need to be further accountable for their operations. The prevailing attitude was that "no feedback means we are doing our job".

- The major uncertainty in the Field Printing Offices is over the continued operation of these plants. Most Field Printing Offices have been impacted by loss of work and are operating at reduced workload.

- Generally, the bookstore managers were satisfied with the improvements in processing orders, the use of new microfiche for title searchng, provision of copies of new publications for review, and the overall effort to re-emphasize bookstore operations.

B. Summary of User Interviews

A representative sample of GPO clients was interviewed among Congressional as well as Executive organizations and the Library of Congress and the Supreme Court. In user interviews we discussed the quality and type of services offered to consumers and the degree of satisfaction with the service.

Comments, criticisms, and observations of interest include:

- For the most part, committee staffs gave GPO good marks for prompt response. However, committees of lesser legislative visibility and/or those with no legislative responsibility claimed they had problems in getting priority for their work.

- With regard to GPO's response to complaints or requests, Congressional users were pleased with the attempts of the Congressional Information Section to keep them informed. However, committee staffs would like to understand how priorties are assigned so that they could provide realistic deadlines to GPO.

- Customer relations and GPO response to Executive agency needs were considered to be good and the GPO more service oriented than in the past. Contractor quality, while improved, was rated only acceptable. Most respondents indicated work performed at GPO was of a higher quality, but often at the cost of longer production time and higher price.

- Agencies and departments were unanimous that GPO's billing procedures need improvement. The major complaints were:

  - lack of cost itemization
  - erroneous amounts, erroneous job identification information
  - lateness in paying contractor invoices with wide variations reported when compared to original estimates

- Almost all users expressed the desire to obtain more "direct deal" arrangements -- in that the agency contacts the printing contractor directly. They feel that turnaround time and quality control can be advanced.

II. REVIEW OF MISSION AND ORGANIZATIONAL STRUCTURE

Coopers & Lybrand investigated a number of organizational and managerial characteristics of GPO. The salient observations, recommendations and comments are listed below.

A. Public Printer/Deputy Public Printer

Currently the Deputy Public Printer has a dual responsibility -- he manages Operations and contributes to the overall supervision of GPO. This arrangement means the Public Printer maintains the bulk of responsibility for day-to-day operations and external liaison with the JCP, industry groups, etc., because of the significant time the Deputy Public Printer must devote to Operations.

- Recommendation: GPO should consider appointing an Assistant Public Printer for Operations, thereby enabling the Deputy Public Printer to become more actively involved with the overall management of GPO.

- Anticipated Benefits: Releasing the Deputy Public Printer from the management of Operations will allow the Public Printer to focus on external considerations (e.g., policy, industry liaison, etc.) while the Deputy Public Printer concentrates on day-to-day operations and administration.

B. Superintendent of Documents

In recent years, there has been noticeable improvement in the relationship between the customer population and the Superintendent of Documents (SU/DOC). Complaints, a major indicator of performance and customer satisfaction, are fewer in number, orders are generally processed within ten days and are more acurately filled, and the bookstores are better able to research and respond to customer orders.

GPO bookstores operate somewhat autonomously, each manager having a large degree of discretion in title selection, inventory levels, etc. Little control is exercised over the inventory mix, destruction of documents, or operating expenses versus sales revenue.

- Recommendation: Each bookstore should be put on a self sustaining basis by instituting inventory mechanisms in which books are "sold" to each store, e.g. at a certain percent of retail value. Thus, each bookstore would be provided with an operating margin from which all costs are paid.

- Anticipated Benefits: The restructuring of bookstores to resemble retail operations should provide a better basis upon which to measure performance. Additionally, a retail orientation will give impetus for market analysis and prudent selection of titles.

The dollar value of inventory in SU/DOC warehouses is not known nor is it known how much it is costing to carry the present inventory. Additionally, it is estimated that while there are 5,000-6,000 back orders, there is also an 18-month inventory stock. The lack of cost and volume data and the apparent excessive inventory stocks indicate that the inventory management function suffers from a lack of management information.

- Recommendation: SU/DOC should develop a system whereby operating costs associated with inventory are collected, updated, and available for mangement review. Additionally, it is recommended that inventory levels and back orders be examined in order to determine if either could be reduced to lower the inventory investment without impairing service delivery standards.

- Anticipated Benefits: The development of cost and inventory data will provide management with the means by which to evaluate carrying costs and stock levels. The ability to conduct such analysis should serve to reduce inventory costs while maintaining acceptable service standards.

C. Printing Procurement

The management of the Printing Procurement Department has sought to improve management and control functions at main GPO and in the field operations. Much has been accomplished through the establishment of the Analysis and Review Staff and the subsequent implementation of the Management Evaluation System.

The Commercial Printing Specifications Division (CPSD) and the Central Office Printing Procurement Division (COPPD) of the Printing Procurement Division perform activities associated with the procurement, yet are organizationally subdivided. A review of this structure indicates some activities are performed in a duplicative manner.

- Recommendation: The Printing Procurement Department should initiate a study of COPPD and CPSD in order to determine the feasibility of their consolidation.

- Anticipated Benefits: The purpose of the proposed study is to develop information that will enable departmental management to decide if consolidation is feasible and warranted. It is believed the combining of COPPD and CSPD would promote better utilization of resources, reduce managerial overhead, and facilitate workflow.

The Field Printing Division (FPD) is located in Printing Procurement Department yet bears little or no relationship to the procurement function. Additionally, there are currently no evaluation methodology or criteria for the review of field printing plants in terms of their efficiency and requirement for operation.

- Recommendation: GPO needs to examine the organizational location of FPD in order to determine if it should be placed in Operations. Furthermore, GPO and JCP staff should work together in developing a methodology to evaluate field printing operations so as to ascertain their efficiency and effectiveness in fulfilling customer agency requirements.

- Anticipated Benefits: The assignment of FPD to Operations could promote more effective management planning and control since FPD would be in a production-oriented responsibility center rather than procurement. The development and use of evaluation criteria for field printing operation would serve to identify operational inefficiencies and areas in which service levels need to be increased or decreased.

Within the Washington, D. C. metropolitan area, GPO maintains a regional procurement office (Region 3 RPPO) and the Departmental Service Office (DSO) in addition to the main GPO facilities. Both DSO and the Region 3 RPPO provide services obtainable at the main GPO plant yet neither operation is effectively integrated with Central Office production or printing procurement.

- Recommendation: A comprehensive review should be undertaken in order to determine how Region 3 RPPO and DSO might best be utilized in serving customer agencies and complementing Central Office operations.

D. Production Department

GPO's Production Department encompasses one of the world's largest and technically sophisticated printing operation. This department is responsible for the daily production of the Congressional Record and the Federal Register, all Congressional bills and laws, the majority of Congressional reports and documents, White House documents, and urgent, complicated, and classified publications for various Federal agencies.

The scheduling of production is an activity located in the Plant Planning Division of the Customer Service Department rather than the Production Division. This results in a situation in which the Production Manager must meet a schedule over which he has no direct control.

- Recommendation: A realignment of procedures and responsibilities needs to be instituted in order for the Production Division to have more control over the schedule for which it is responsible.
- Anticipated Benefits: Greater control of scheduling will permit the Production Division to more effectively utilize manpower and equipment.

E. Customer Service

GPO devotes significant resources to maintaining adequate liaison with customer agencies and Congress. The Customer Service Department provides expertise in printing and binding, and coordinates production planning and scheduling.

Most customer agencies we contacted commented that GPO customer service procedures were needlessly rigid and that GPO generally does not solicit agency printing requirements.

- Recommendation: Customer service procedures should be modified so, when it is warranted, it is possible for users to directly contact the technical specialist responsible for their job. Additionally, GPO should develop in-house capabilities that will promote the identification of user requirements, and continually review internal procedures and respond to customer complaints regarding GPO's procedures.
- Anticipated Benefits: Providing the opportunity for customer agencies to have direct contact with technical specialists, when required, will enable users and GPO to more quickly resolve problems without the filtering effect of the Customer Service Department. The increased ability to ascertain the requirements of customer agencies will serve to increase GPO's knowledge of the user's environment and provide an opportunity to gather data regarding GPO projected workload.

F. Personnel Policies and Practices

The project staff reviewed selected personnel policies and practices as required by the Request for Proposals. The scope of this effort was to ascertain the effectiveness in which particular personnel-related functions are performed. The results of this review and analysis is discussed in the following paragraphs.

There is currently an absence of a process whereby manpower requirements are clearly identified and plans developed to satisfy such needs. This infers there has not been an attempt to translate projected workload and activities into personnel requirements.

- Recommendation: The Office of Personnel Service should be charged with the responsibility for providing GPO with identification and analysis of work force requirements. This effort should employ the solicitation of personnel needs for all line and staff units.

- Anticipated Benefits: An effective manpower planning function should promote better utilization of existing personnel, recruit qualified personnel in a reasonable time frame, and encourage the examination of near-term and long-range plans and objectives.

Traditionally GPO has not actively recruited personnel from the private sector to fill administrative and management positions. Consequently, GPO has not had much benefit of the experience gained from the private sector even though GPO operations are similar to those found in private industry.

- Recommendation: GPO should seek to actively recruit individuals from the private sector to fill certain management and other professional positions. Additionally, a program should be developed aimed at providing managerial training as well as incentives to those motivated to pursue such training on their own time.

- Anticipated Benefits: As in any organization, the employment of personnel from other organizations can serve to bring about a fresh perspective to both operations and management. Furthermore, increasing the management training of in-house personnel and hiring persons with management expertise will provide GPO with a greater inventory of talent with which to perform analytic duties.

III. REVIEW AND ASSESSMENT OF MANAGEMENT SYSTEMS AND PROCEDURES

The project staff assessed the effectiveness of planning, the management-by-objectives (MBO) program, productivity standards, operations information and control, and information support.

A. Planning

The GPO planning process is an effort designed to provide managers with guidance and direction in the context of a five-year period. However, the absence of a definitive plan complete with milestones, targets, etc., precludes the Five-Year Plan from being employed as an action-oriented schedule.

- Recommendation: The GPO planning process requires a complete reorientation in order for it to become an operational management tool. This means the current document must include timetables, rates of resource utilization, responsibility assignments, and measurement criteria.

- Anticipated Benefits: Once the Five-Year Plan becomes a plan, it will serve as a tool by which management can evaluate progress toward agreed-upon goals and objectives. A refined planning document will also facilitate the development of annual budgets and operating plans.

B. Management-by-Objectives and Productivity

Both the MBO and productivity program result in considerable amounts of man-hours expended and data collected. However, as currently operating, the productivity reports are seldom used by management while adherence to MBO is the exception rather than the rule.

- Recommendation: MBO and productivity must be integrated with each other and other processes, e.g., budgeting, planning, etc. Also, the 350-400 contemplated objectives for next year should be substantially reduced in order to prevent the process from becoming a mechanical reporting system as opposed to a management tool.

- Anticipated Benefits: The benefits of a well-designed MBO and productivity program are proven and documented throughout Government and industry. Specifically in GPO, the redesign of MBO and productivity reporting will provide a means by which management may evaluate performance and progresses as well as facilitate budgeting and short-term planning.

C. Operations Information and Control Systems

While the need for operational information is clear, each operating unit tends to individualized its information requirements without attempting to effectively integrate its needs with other groups.

- Recommendation: There needs to be a comprehensive "top-down" requirements analysis performed in order to inventory organization-wide information requirements, thereby promoting the development of integrated systems.
- Anticipated Benefits: A comprehensive requirements analysis will identify management information needs and commonalities among data elements and systems as well as provide the basis for a unified operational information system.

PART TWO: ACCOUNTING AND FINANCIAL MANAGEMENT ASSESSMENT

I. REVIEW AND ASSESSMENT OF COST ACCOUNTING, PRICING AND BILLING

The project team conducted a substantial review of specific financial management and accounting procedures. The purpose of this review was to determine adequacy of these procedures and provide recommendations as to potential improvements.

A. Cost Accounting

The nucleus of GPO's cost accounting system is the all-inclusive hourly rate. The process of formulating and monitoring the all-inclusive rate is a labor intensive manual operation which fails to maximize avaiable computer technology. Additionally the all-inclusive rate as currently formulated does not adequately provide for variance analysis nor does it effectively promote cost consciousness.

- Recommendation: GPO should consider the automation of cost accounting which would incorporate a standard costing methodology. Furthermore, additional resources should be devoted to the analysis of variances in those elements encompassing the all-inclusive rate.
- Anticipated Benefits: Automation and the use of standard costs will significantly reduce existing workload. While the analysis and reporting of cost variances should promote more efficient operations since management will be better able to identify problems areas.

B. Pricing Formula

The pricing formula is used to determine the retail cost of documents for sale by the Superintendent of Documents. Reprint, unsaleable, and handling charges, and fixed costs are based on estimates and percentage totals that are projected for the year. Should inaccurate estimates be made the possibility exists that full costs will not be recovered. The accuracy of estimates and projections is questionable because of the lack of information available.

- Recommendation: More resources should be devoted to tracking and estimating delivery costs, sales volumes, fixed costs, and other charges.

- Anticipated Benefits: Accurate data on sales volumes, fixed costs, etc. would lead to more precise pricing and the avoidance of loss situations.

C. Billing Procedures

Currently billing procedures are complicated and do not take advantage of computer technology. This situation has precipitated the necessary review of each bill.

- Recommendation: Billing policy and procedures should be revised to base all bills on standard cost rates and factors. This would necessitate an alternative billing method be provided for Congressional and other jobs for which work requires overtime and for which production requirements cannot be ascertained at the point initial work is accepted. Additionally progress billings should be made for jobs exceeding a three-month period and there should be greater use of the Simplified Intra-Governmental Billing and Collection System.

- Anticipated Benefits: The adoption of revised billing practices would include a reduction of revolving fund working capital requirements of $50 to $80 million, more emphasis on minimizing production and cost variances, and reduced workload.

D. Surcharge Analysis

The surcharges currently in effect are in excess of the expenses they are designed to recover. Part of the excess is absorbed by operating inefficiencies. Furthermore, nearly all Congressional work is assessed a surcharge whether or not additional costs are incurred.

- Recommendation: Surcharges should be reduced to reflect the costs they are intended to recover. Surcharges must be applied only to jobs which cause excess costs.

- Anticipated Benefit: Redesign of surcharge procedures should provide more equitable cost allocation and aid in the identification of operating inefficiencies.

II. REVIEW OF ACCOUNTING SYSTEMS AND PROCEDURES

Accounting systems and procedures employed by GPO were reviewed in terms of their responsiveness to management, compliance with GAO standards, and use of current technology.

A. Financial Reporting

The existing accounting system limits effective financial reporting for internal management purposes. Most reports are manually prepared from worksheets and journal entries.

- Recommendation: The financial reporting capabilities be revised and expanded to effectively support management decision making and control processes.

- Anticipated Benefit: The provision of accurate timely and useful financial information is essential for management planning and control functions. An improved reporting system should increase the usefulness of financial data for planning, control of resources, and effective management of operations.

B. Accounting Systems

Relative to present day automation standards, we fee that GPO accounting systems are generally labor-intensive, inefficient and unresponsive to user requirements.

- Recommendation: Given the volumious amount of transactions and requirement for financial information, GPO should develop and implement an integrated accounting and financial management system.

- Anticipated Benefit: The capability of an integrated system to provide single entry accounting would eliminate the necessity for manual reconciliations, reduce workload, and improve the accuracy and timeliness of financial information.

C. Financial Policies and Practices

During the review of accounting systems and procedures the project team identified specific policies and practices which in our opinion require modification. These observations are discussed in the following paragraphs.

Current GPO practice is to record purchase discounts as revenue rather than as a reduction of costs, and to report this revenue as nonoperating revenue.

- Recommendation: The policy stipulated by GAO Manual for Guidance of Federal Agencies, Title 2 -- Accounting, should be adopted by GPO for accounting for purchase discounts taken, and that discounts lost be recorded in a separate account to make management aware of this cost. This is considered the preferred accounting treatment for all Federal Government activities.

- Anticipated Benefit: Improved financial disclosure would assure management's awareness of any deficiencies in processing vendors' invoices, and thereby facilitate corrective action.

An account payable for a commercial printing order is recorded as of the specified delivery date shown on the order. This practice does not effectively reflect contractor performance. Printing procurement records reflected delinquent delivery dates ranging from 6-7% and upward.

- Recommendation: An alternative approach needs to be developed for recording purchased printing accruals/ payables to reflect actual performance, and to serve as a basis for automatically generating customer billing.

- Anticipated Benefit: Recording performance received systematically would provide information to monitor the timeliness of delivery, improve the validity of financial data and serve as the basis for billing customers.

General sales publications received by the Superintendent of Documents without charge from the Government Printing Office and from Government agencies (44 U.S.C. 1702, 1720, 1721) are capitalized into inventory at the cost value with the accounting effect of reducing current period cost of sales and increasing the reported net income from general sales publications operations. For the period October 1, 1977 to April 30, 1978, the net amount of publications received without charge was $315,418.

- Recommendation: Revise the accounting treatment for general sales publications received for inventory without charge to reflect the value of assets received without charge from Agencies as an increase to the Investment of the U. S. Government (2 GAO 14.4).

- Anticipated Benefit: The recommended change would conform accounting treatment of publications received without charge to GAO guidance.

The amount of the U. S. Government's investment in the GPO Revolving Fund since its inception in 1953 has been increased $58.5 million as of September 30, 1977 through accumulation of retained earnings. Retained earnings represent charges for Congressional and agency work in excess of the costs of that work. For the fiscal year period 1975-1977, the net increase was $17 million.

- Recommendation: Adopt a policy of "break even" as the revolving fund profit objective. Operating policy would conform with the policy expressed in the annual business-type budget enacted by Congress through the adjustment of rates, prices and surcharges to approximately match revenues with costs of operations on an annual basis.

- Anticipated Benefit: Charges to annual Congressional and agency appropriations would reflect the cost of services furnished.

Accounts are maintained on a cash basis for the appropriations for Congressional Printing and Binding and for Printing and Binding. Cash basis accounting and reporting limits the usefulness of financial reporting for administrative control of appropriations and for budget estimating purposes.

- Recommendation: The accrual basis of accounting should be adopted for all appropriations as prescribed by 31 U.S.C. 66 a(c) for executive agencies.

- Anticipated Benefit: Accrual basis accounting and reporting for Congressional appropriations would improve the usefulness of financial reporting for management control and for budget estimating purposes.

III. INDUSTRY PRACTICES - A COMPARISON

Coopers & Lybrand surveyed the printing industry to identify the cost recovery and, pricing formulas and methods in order to compare these with GPO practices and procedures. It was learned that the industry usually employs a job order cost system in which an estimate is compiled for each order. This approach is seen as an advantage over the GPO practice of utilizing an all-inclusive rate in that it provides the capability to analyze both labor rates and labor efficiency. The variance information thus derived can serve as a primary management control device in measuring and evaulating performance.

The billing method generally used in industry for "normal" production work is to render an estimate to the customer in advance of production and hold to that price. This differs from the GPO practice of billing actual costs after production. We believe that a shift in emphasis from the GPO practice of billing actual costs to the practice of establishing a firm price in advance of production would have the following benefits:

- Improve billing and collection process
- Provide stronger motivation for effective cost control

PART THREE: TECHNOLOGY USE ASSESSMENT

The review of technology at GPO encompassed three major aspects: use of automated data processing technology, the use of production technology, and the use of micrographic technology. The review of automated data processing (ADP) technology included hardware, software and certain aspects of the personnel support required. Our review of production technology focused first on Central Office production requirements, then, on the more specialized functions of offset, letterpress and electronic photocomposition. The project team also reviewed the current status of micrographic work at GPO and formulated some observations on other areas or strategies recommended for further study by GPO.

I. COMPUTER HARDWARE AND SOFTWARE

Basic responsibility for acquisition, operation and maintenance of ADP hardware and software is borne by the Data Systems Service. Our general observations is that at present, GPO maintains an adequate level of computer hardware and software inventory. However, to support an expected increase in on-line applications, GPO is upgrading its computer configuration.

- Recommendation: In addition to further hardware acquisition, the Data Systems Service should expand the staff of the Systems Analysis and Programming Division; training programs should be expanded to reflect increases in staff.
- Anticipated Benefits: An expanded Systems Analysis and Programming staff would be able to meet the increased demands for applications development that are indicated in the GPO data automation plans.

II. PLANNED APPLICATIONS FOR AUTOMATION

Although may departmental data automation plans exist, we found no comprehensive document that integrates and coordinates planned data automation for GPO as a whole.

- Recommendation: The use of distributed processing must be controlled and coordinated with an overall GPO data automation plan developed under the auspices of the ADP Steering Committee.

- Anticipated Benefits: A unified data automation plan will allow coordination of systems and data so that elements created by one subsystem can be used by another. Moreover, such a plan will ensure compatible data items.

III. USE OF TECHNOLOGY IN THE PRODUCTION PROCESS

We found no automated methods of scheduling production, tracking orders, monitoring job status (except in Printing Procurement), or collecting data for the accounting system. Moreover, we were unable to obtain sufficient information that would ensure that the Operations Management Information System (OMIS) as currently planned will meet all requirements for production planning and scheduling.

- Recommendation: In the production area, automated systems for order entry, production planning, requirements planning and job reporting should be implemented as soon as possible. A two-step approach is recommended to develop these applications. First, these modules may be independently developed under the coordination of the Automated Data Services Steering Committee.

- Anticipated Benefit: Although independent development is a less than optimum manner of developing applications, such a strategy will provide for the quickest development of the required modules while not impacting the development schedule of the OMIS program.

In general, our observations are that the scheduling of production through the Central Office plant can generally be made more effective since there is individual machine availabilty and a continual backlog of in-plant orders. This situation can be optimized through the use of a computer-assisted scheduling system.

We found that, in general, GPO attempts to utilize the more cost effective technologies in the production functions, keeping in mind the needs to maximize equipment in which these have a large capital investment, while simultaneously exploring new printing technology.

The Electronic Photocomposition Division has installed -- and represents an advance state of the art in composition systems. Technological expertise notwithstanding, our observation is that its organizational structure could act as a constraint to the effective use of such systms.

- Recommendation: EDP and for top GPO managment should develop stronger coordination links between this division and:

  - Customer Service Department
  - Planning Service
  - Automated Data Services Steering Committee

- Anticipated Benefit: An increased level of external coordination will provide assurance that EPD is meeting all customer expectations and is coordinating its growth plans with those of the remainder of GPO.

IV. MICROFILM USE AT GPO

In our assessment of GPO's use of microfilm, we observed that GPO has adequately fulfilled its obligations for using microfilm within the constraints of the directives of the JCP.

- Recommendation: GPO should expand its use of microfilm in the library and statutory distribution program and that GPO offer a microfilm sales program through the Superintendent of Documents.

- Anticipated Benefits: An active microfilm program would result in reduced production and mailing costs as well as in increased distribution of publications. The public would also benefit since microfilm versions may be offered at a lower price than the printed version.

APPENDIX A:

IDENTIFICATION AND LISTING OF PUBLICATIONS PRODUCED, STORED AND/OR DISTRIBUTED BY GPO ON A FREE OR SUBSIDIZED BASIS - A DISCUSSION OF WORK ITEM A.1.

Work Item A.1. of Schedule A of the Request for Proposal for JCP Project No. 101 called for, in part, a list of publications produced and/or distributed by the GPO on a free or subsidized basis. A significant and substantial impact upon performance of this work was the lack of standard and generally-accepted definitions of the term "free" and "subsidized" publication. The project team determined that GPO produces, stores, and distributes documents on a "by-law" basis (costs incurred are charged to the Congressional

Appropriation), a reimbursalbe basis (costs are paid by the client agency requesting the work), or are subsidized (costs partly recovered from the Congressional Appropriation).

During our initial efforts, we found that:

- The Depository Library Program of GPO (44 U.S.C. Chapter 19) distibute new titles free to participating libraries at a rate of 3,000 per year. Since the program began, over 37,000 separate titles have been distributed
- The Department of Agriculture under the by-law program (44 U.S.C. 1701) distributes, through GPO, 3,200 separate titles.
- An estimated 15,000 separate bills, resolutions, hearings and reports are prepared and distributed by GPO by-law (under various provisions of Title 44 and other public laws) for Congress each year.
- Over 100 other items are distributed by GPO each year on a by-law or subsidized basis.

In discussions with JCP staff, we noted their concern with several issues included in a related Item A.1. -- each one requiring different activities to be performed in order to resolve the particular issue. These are:

- Free distribution of titles to Federal agencies ient paid for through the Congressional Appropriation.
- Automatic distribution of titles, whether or not required under a law, that are received by Congressional Offices or Members without request of the recipient.
- Distribution free to the recipient, i.e., a recipient, be it the public, Member of Congress, or other entity receiving a title that has not been paid for directly.

We found no central, accessible source of distribution information in GPO, the organization acts as an agent for Government organizations wishing printing and/or distribution services, and its records are generally not maintained according to the title of a publication. Although GPO has been viewed by Congress as the prime source of the flood of documents entering Members' offices, our review seemed to indicate that:

- GPO performs only about 50% of all government printing, according to the informal estimates made by several GPO and agency sources.

- GPO distributes only about 40% of the documents it prints.

- The current state of GPO records would not permit the determination of specific recipients e.g., Congressman, sender, without significant cost.

- Agencies themselves distribute a large number of documents that are printed in-house or by the National Technical Information Service (NTIS).

We noted that because GPO establishes the estimate for Congressional printing in the GPO's appropriation request, most of the committees are not directly concerned with printing budgets and cost. Moreover, while Title 44 limits the number of copies for each title, there is no method to either monitor or limit the number of titles or the individual cost per title for committee printing.

The following recommendations to the Joint Committee on Printing are based upon the information presented in the Appendix and reflect not only the input of the project staff, but the ideas of many of the people interviewed during this project.

- Examine every aspect of Title 44 that deals with quantities, distribution and cost to determine its relevance. Concomitant with this examination should be the formulation of overall policy directives concerning the use of Congressional funds for distribution of non-Congressional documents.

- Request Congressional committees to develop and monitor their own detailed printing budgets. Institution of their own printing budgets by the Congressional committees (instead of an overall GPO budget) should provide better awareness and control of Congressional printing costs.

- Conduct research and/or hearings on the scope of the overall Federal Printing program with the view toward defining what is being done, by whom, and at what cost.

INTRODUCTION

This report is organized into four parts. PART ONE: MANAGEMENT REVIEW AND ASSESSMENT provides the project team's review and analysis of the organizational structure and management of the U. S. Government Printing Office (GPO). This portion of the report focuses on Operations and the Superintendent of Documents in addition to selected policies and practices including employment and staffing levels, storage and space rental, and equipment acquisition. Our review of GPO management systems and procedures addresses planning, management-by-objectives (MBO), productivity, operations information, and the use of automated systems.

PART TWO: ACCOUNTING AND FINANCIAL MANAGEMENT ASSESSMENT examines GPO's cost accounting and billing procedures. This portion of the report provides a detailed analysis of the formulae used to price documents and the surcharge levied upon Congress and customer agencies. Included are recommendations for improved cost accounting and financial management procedures.

PART THREE: TECHNOLOGY USE ASSESSMENT includes an assessment of the Data Systems Service, the use of technology in production processes, and an assessment of GPO's use of microfilm technology.

The report concludes with Appendix A which outlines our activities and lists publications produced, distributed, or stored by GPO on a free or subsidized basis. This section addresses the questions outlined in Work Item A1 of the statement of work in the Request for Proposals.

A. Summary of Project Purpose and Objectives

The Joint Committee on Printing (JCP) Project No. 101 was authorized by Public Law 95-94 to conduct a comprehensive review, analysis, and evaluation of the U.S. Government Printing Office. The objectives of the project, as formulated by the JCP staff, were:

- To conduct an analysis and evaluation of the distribution of free and subsidized Government publications by the GPO.
- To conduct a cost analysis of the GPO's billings to Congress.
- To conduct an analysis of the GPO's pricing of publications.
- To analyze and evaluate the quality, efficiency and cost effectiveness of GPO's overall organizational, operational, and planning structures.
- To analyze and evaluate the GPO's use of available technologies.

The Coopers & Lybrand project staff had as its overall objective the identification and analysis of problems confronting the GPO and subsequently, the formulation of recommendations, which when implemented would improve operations, management processes, and procedures. The goal of this effort was the improvement of efficiency and cost-effectiveness of services delivered to Congress and Executive departments and agencies.

B. Study Methodology

Our assessment of the GPO organization, management and certain facets of current operations and procedures was derived from:

- Statements about the GPO's mission, goals, and objectives from formal documents and directives.
- Interviews with JCP staff, GPO managers at all levels, representatives of customer agencies, Congressional committees, and selected industry representatives.
- Observations and analyses of current procedures, management reports and operational data.

This three-part approach allowed the project team to assess GPO management systems and financial procedures, identify problem areas and develop the recommendations presented in this report. The major task areas undertaken for the analysis and evaluation are summarized below.

1. Administrative and Legislative Data Analysis

Coopers & Lybrand's assessment of current systems and procedures began with the examination of formal documentation such as statements of the mission and objectives of GPO and directives as well as special purpose management reports like the Five-Year Plan and the Annual Report of the Public Printer. Other document sources reviewed included automated system plans, productivity reports, MBO status reports, internal studies, current organization charts and functional statements.

With regard to legislation, our procedure was to review, in general, Title 44 United States Code and the Government Printing & Binding Regulations, as well as resolutions, and pertinent JCP and GAO reports.

2. GPO and JCP Staff Interviews

The major effort during the fact-finding phase was the interviewing of GPO management, A vast amount of data was collected during these interviews to supplement the formal documentation. The projet staff talked with a wide spectrum of GPO personnel about a number of management issues and procedures and elicited their views on how GPO currently functions and whether any problem areas existed.

In addition, the project staff conducted interviews with representatives of several customer agencies. The purpose of these interviews was to determine user perceptions as to service delivery and overall efficiency of GPO procedures and operations. The project staff also talked with members of the JCP staff who provided insight to GPO operations and management issues.

3. Analysis

Using the interviews and documentation as a base, we examined GPO's organizational structure, management processes, financial management procedures, distribution services, and utilization of new technology. These analyses provided identification of specific problem areas for which recommendations regarding improvements were subsequently developed.

PART ONE

MANAGEMENT REVIEW AND ASSESSMENT

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I. INTRODUCTION

The initial section of this report, entitled Part One: Management Review and Assessment, focuses on three key areas describing the project team's review and analysis of GPO management and organization. These three areas include: a summary of the interviews conducted by project staff; a review of GPO's mission and organization structure; and an assessment of selected management systems and procedures. Each area is treated as a separate chapter, and Part One concludes with a summary of the project team's organizational and management observations and recommendations.

A. Summary of Interviews

This chapter relates a major portion of the effort undertaken by the project team in performing this study. During the interview phase, over 150 persons were interviewed to supplement the formal documentation collected by the team. Interviewees included GPO personnel; Congressional, executive agency, and judicial staff; representatives of the private printing and publishing industry; and other consumers of GPO's services. Within GPO, a wide range of senior and middle managers, whose responsibilities covered the spectrum of operations from printing to distribution to administration, were interviewed; and their views concerning management issues, procedures, current operations and existing problem areas were elicited. Field operations, including bookstores, field printing offices and regional printing procurement offices, were visited in the following cities:

- Atlanta, Georgia
- Chicago, Illinois
- Dallas, Texas
- Denver, Colorado
- Pueblo, Colorado
- San Francisco, California
- Seattle, Washington

Industry representatives were interviewed to collect information on specific practices in the areas of printing, cost accounting, technological advances, and financial management.

The project team employed a structured interview guide developed to assist in identification of weak and strong points of present operations, procedures, and information flows. The interviews with users of GPO services were also conducted using a special guide which focused on user perceptions of such services including effectiveness, timeliness, and responsiveness.

B. Review of Mission and Organizational Structure

Our examination of GPO's organization structure and mission was intended to gather the information upon which an assessment and recommendations for improvement of the structure could be made. This assessment of the mission, function, and structure resulted from the review and analysis of both formal documentation and the results of our interviews. Accordingly, the project team reviewed the overall organizational structure in terms of its ability to impact upon GPO's ability to effectively accomplish its mission. Additionally, the project team examined the organizational structure of several GPO entities: Superintendent of Documents, Printing Procurement Department, Production Department, and the Customer Service Department, in an effort to determine if duplications or dysfunctions existed. The project team further attempted to determine if these factors in some way tended to affect efficient operations.

One other aspect of the project team's effort is described in this chapter. Specifically, the areas of employment policies and staffing levels, storage and space rental practices, and equipment acquisition were analyzed, per the specifications of the Solicitation of Offer. With regard to employment practices, project staff reviewed and assessed the management of GPO's personnel functions. It is through the proper management of manpower planning, attrition monitoring, and recruitment activities that an organization is given the human resources needed to accomplish its goals and objectives. Therefore, the project team considered this to be an important area for review.

Our focus in assessing storage and space rental, and equipment acquisition centered on the procurement decision-making process, to ascertain if adequate analysis was employed during the process.

C. Review and Assessment of Management Systems and Procedures

Important parts of any organization are the systems in which the policies, procedures, administrative operations and such are carried out. Therefore, the project team felt it was appropriate to examine the availability and use of operations information as well as the

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systems for controlling and/or monitoring those operations. Several areas in which such systems were (or planned to be) in use were reviewed: Planning, Management By Objectives (MBO) Program, Productivity Measurement, Financial Management, Operations, and Information Support and Data Processing. Formal GPO documentation on existing and planned systems was examined and follow-up interviews with system designers, operators and users were conducted to determine how each system functioned in actual operations.

II. SUMMARY OF INTERVIEWS

As part of the overall assessment of GPO organization, management systems, procedures and operating conditions, the C&L project team conducted a series of interviews with over 150 GPO personnel, Congressional staff, Executive agency and Judicial consumers of GPO services. Private industry printing and publishing representatives were interviewed for specific purposes such as pricing practices, uses of technology, and financial management procedures. Because the private sector interviews followed no standard or comprehensive format regarding level of service from GPO, they are not summarized in this report. Within GPO we interviewed a wide range of senior and midlevel managers in various disciplines to assure the development of an adequate information base for later analysis. Field operations were also visited to assess their role in the overall GPO operation.

Questions for the GPO and user interviews were structured to identify weak and strong points of present operations and procedures, gaps in information flow, and to provide data through which the various organizational and operational assessments could be made. In all user interviews, the initial interview was with the designated GPO liaison in that agency. Subsequent interviews, if any, were held at the recommendation of that individual. The results of all interviews are summarized below.

A. Summary of GPO Central Office Interviews

The Washington level or Central Office interviews included the top four organization levels - Public Printer, Assistant Public

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Printer/Deputy Public Printer, Service Director/Department Manager, and Division Chief/Division Superintendent - in addition to follow-up interviews within these groupings. Our GPO Central Office primary interviews, exclusive of follow-ups, numbered approximately 85. About an equal number of follow-up interviews were conducted.

All personnel were generally helpful and provided the project team with copious documentation concerning their particular areas of responsibility. Specifically, the objectives of the Central Office interviews included:

- Determining the role of each second, third, and fourth-level organizational unit within the overall scope of GPO operations.
- Determining perceptions of existing systems and procedures and eliciting suggestions for improvement.
- Identifying information requirements and the extent to which these requirements are being met.
- Identifying GPO guidelines and procedures, and problems relating to them.
- Assessing the effectiveness of the present management system.

1. Responsibility/Authority

The primary mission of GPO was articulated with little variation by most of the department/service and division heads we interviewed. Although formal GPO statements indicate that priority is assigned according to the nature of the work rather than its source -- and indeed, GPO top management holds this position -- we noted that in middle- to lower-level management, the mission was viewed in terms of a priority to expedite and complete Congressional printing and otherwise be responsive to Congressional needs. Attention to agency printing and the sale of government documents were accorded a somewhat lower priority. There appeared to be general satisfaction with these priorities despite a recognition that they placed unique demands upon GPO in terms of operations and procedures.

To a large degree, the interviewees considered the mission to be a requirement of law, as enumerated in the provisions of Title 44. However, there was a consensus that Title 44 is in need of revision because it does not reflect advances in printing technology and is often ambiguous. This absence of technological considerations in Title 44, the respondents indicated, makes it difficult for the managers to operate or restructure their units in an effective manner that utilizes new technology. However, details on which specific sections of Title 44 should be revised were not offered.

Communication of policies and procedures, for the most part, was considered to be good and adherence to policy and procedures rated strong. Policies were characterized as understandable and well written, although several respondents felt certain policies did not always take actual operating conditions into consideration. Similar comments were made concerning procedures and directives. Responsibility reporting relationships appeared to be clearly defined and understood by each person.

Feedback concerning job performance was considered adequate; the measure of success most often cited was a low number of client complaints. Many of the respondents indicated they were unable, due to the complexity of their particular operation, to develop quantitative performance measures by which they could evaluate their employees or the quality of work being performed. Of importance was the belief that qualitative performance indicators were sufficient in many areas of GPO operations. One notable exception was the production area where a multitude of items were used to quantifiably measure performance and effectiveness. Daily, weekly and monthly reports were used by most managers on an exception basis, because they felt this was an effective management tool and served to reduce the amount of data they were required to review.

One area where managers at all levels felt they could utilize more information was financial reporting. Most upper-level managers receive a monthly report on planned versus actual expenditures and a detailed briefing from Financial Management Service (FMS); however, third and fourth-level managers either do not receive such reports or must request to see them. A few managers who do receive, or have access to, the reports expressed some concern over their timeliness and accuracy.

These reporting problems were not considered by managers as major barriers to carrying out their responsibilities. Based upon the interviews, it is the opinion of most GPO managers that no problem is major enough to seriously affect achievement of the basic GPO mission.

2. GPO Organization and Management

Most discussions in the area of management and organization focused on topics requiring refinement or slight reassessment rather than major organizational change. The more frequently mentioned topics include:

- Priority setting and long-range planning.
- Utilization of information systems.
- Budgeting.
- Employee relations and career development.

Priority setting and planning revolved around the management-by-objectives and the planning processes. Most managers indicated they follow the Five-Year Plan in setting their short-term goals and objectives. A large factor in their priority setting is the impact Title 44 has upon the process. Several of the respondents said they tried to tie these two processes into budget preparation to provide them with a complete annual program.

Budget preparation was not viewed as a particularly difficult process. Most managers relied heavily on the guidance furnished by FMS and upon historical data for their respective operations. Basic preparation starts at the lowest management level, *e.g.*, branch, section, and unit, and flows upward to the Assistant/Deputy level. Generally, each Division/Staff, and Service/Department has one or more individuals responsible for the compilation and preparation of budget data.

With regard to information systems, there is a universal belief in and reliance upon automated systems as an effective management tool. A majority of the interviewees had a variety of reports received on a daily, weekly, or monthly basis which they used to appraise ongoing operations. Several respondents did indicate that perhaps too many systems were or are being developed independently of each other and urged that a serious data base management effort be initiated to reduce redundancy in data collection and reporting. There was also some concern over the "naivete" some managers have about what computers can do in terms of information handling.

Certain concerns were also expressed over the quality of employees within GPO. Many interviewees felt the imposition of the "Inverse Register" program (people chosen to fill positions were taken from the bottom of the Register instead of the top to improve GPO's EEO record) has seriously impeded their ability to manage human resources, reduced productivity, and increased the amount of time devoted to handling employee problems. There was also some concern over the lack of strong training and career development programs especially with regard to retaining younger, lower-level managers.

B. Summary of the Field Interviews

The field interviews were conducted for a number of reasons including: observation of the Field Printing Offices (FPO), Regional Printing Procurement Offices (RPPOs), and the bookstores; gaining an appreciation for the unique conditions and problems that must be considered in any assessment; and reviewing the effectiveness of these field operations in terms of management and organization.

The project staff visited GPO operations in eight cities:

- Atlanta - RPPO, Bookstore.
- Chicago - FPO, RPPO, Bookstore.
- Dallas - RPPO, Bookstore.
- Denver - FPO, RPPO, Bookstore.
- Pueblo - Pueblo Distribution Center, Bookstore.
- San Francisco - FPO, RPPO, Bookstore.
- Seattle - FPO, RPPO, Bookstore.
- Washington - DSO, RPPO, Bookstore.

1. Responsibility and Relationship with Central Office

Field operations, by virture of their locations, operate under a set of priorities different from those of Central Office. The field printing plants and the printing procurement offices are more oriented toward serving Executive department agencies within their respective regions and place high priority on effective, responsive service. The bookstores see their function as serving their customers and increasing the number of publications sold through better service.

The field locations operate fairly independently, characterize their contact with Central Office as "minimal," and feel little need to be "accountable" for their operations. The prevailing attitude was "no feedback means we are doing our job," and the minimal Central Office supervision reinforced this belief.

The RPPOs generally were satisfied with the types and frequency of communication with Central Office. One office, Region III located in Washington, indicated they were in daily contact. Where

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the RPPO and FPO were under one manger, the Field Printing Division was said to be quicker in getting information out to the field. The bookstores also felt communications were good and each field operation indicated overall reporting procedures to Central Office were reasonable; however, this belief was not unanimous.

Financial information and managerial guidance flowing from the Central Office were criticized as inadequate. Only the FPOs said they received reports on budgeted vs. actual expenses and revenue figures. The bookstores receive a monthly report on customer counts and sales, while the RPPOs receive no financial reports. Several interviewees felt frustrated by this lack of financial data and also felt that the Central Office was not supplying sufficient managerial guidance to them. Specific areas of concern included bookstore operations (disposal of old stock or wrong shipments), criteria for the "print or buy" decisions made by the RPPOs, guidance on submission of new titles for review, and notification of changes in Federal procurement laws.

2. Other Comments

A number of general observations made by the personnel interviewed dealt with the specific responsibilities of their areas of operation. These have been organized by field operation and are presented below.

a. Field Printing Offices

The FPOs' major concern was uncertainty over the continued operation of these plants. Several managers said they could not get equipment purchases approved because the GPO and JCP were unsure of what to do with the FPOs. Compounding their problems, some felt, was the trend toward Federal agencies operating their own printing plants "illegally," claiming these are duplicating centers. Most FPOs have been impacted by the loss of work and are operating at greatly reduced workloads.

In cities where the FPO is separate from the RPPO, there seemed to be little contact between the two for the purpose of scheduling work into the FPO. One reason advanced for this was that, previously, each FPO had a "pool" of clients who dealt with them directly. Now, with changes in regulations and expanded printing facilities in the agencies, the FPOs are losing their client base.

b. Regional Printing Procurement Offices

Several RPPO managers expressed some concern with their lack of authority to reduce that amount of agency printing they considered wasteful. There were no indications that waste was of great significance or widespread; however, the respondents felt they had little power to reduce the waste that did exist. Their primary tool is education of agency publishing personnel to the Printing and Binding Regulations and Title 44 as well as GPO's role in printing procurement. An associated problem is the failure of agencies to comprehend printing procurement requirements and thus frame their requests accordingly.

The need to go back to an agency one or more times for clarification was considered time consuming and unnecessary, caused primarily by agency noncompliance with GPO procedures. Several respondents indicated they were engaged in a program of education with the various client agencies to overcome these problems.

Much support existed for a minimum charge for printing orders of under $500 value. The problem faced by the RPPOs is that the 6% surcharge on a $500 order is only $30 and many of these orders were categorized as complex in nature, requiring long periods of staff time that are not compensated. Several RPPO managers noted that establishment of a minimum charge would benefit those RPPOs which handle a large number of small orders.

c. Bookstores

Generally, the respondents were satisfied with the improvements in processing orders, the use of the Publications Reference File (PRF) microfiche for title searching, provision of "joker" copies of new publications for review, and the overall effort to re-emphasize the bookstore operations.

Some guidance in the handling of inventory, e.g., title selection, minimum order points, optimum stock levels, and in the promotion of the bookstores was cited as a major need. In addition, the interviewees would like more detail on specific store operations such as costs, inventory and revenues so they may manage more effectively.

C. Summary of User Interviews

One requirement of this study was to determine the degree to which GPO understands and satisfies the requirements of different user groups, including the Congress, Executive agencies and departments, the Library of Congress and the Supreme Court. In user interviews we discussed the quality and types of services offered to consumers and the degree of satisfaction or dissatisfaction with the service.

A representative cross-section of GPO clients was interviewed as shown on Exhibit 1-1, following this page. Within each user agency, our efforts were concentrated in those units that deal directly with GPO. Management as well as staff were interviewed, and, as for example in the Library of Congress, interviews were held in three different organizational units. For purposes of presentation, we will discuss the Congressional, Library of Congress and Supreme Court interviews in the same section, and Executive departments and agencies in a separate section.

1. Congressional Interviews

The project team focused on a number of key issues in conducting interviews with Congressional users of GPO. These issues included: turnaround of work, printing quality, response to complaints, budgeting and billing of costs, use of technology in performing work, and the numbers of copies printed by Congressional users.

Based on the interviews with personnel from Congressional committees, House and Senate clerks, the Library of Congress and the Supreme Court, we determined that overall GPO response and turnaround of Congressional printing was good. However, committees of

EXHIBIT 1-1

LIST OF GROUPS INTERVIEWED FOR USER SURVEY

CONGRESS

House:
- Office of the Speaker
- Enrolling Clerk
- Administration Committee (H.I.S.)
- Appropriations Committee
- International Relations Committee
- Interstate and Foreign Commerce Committee
- Rules Committee

Senate:
- Enrolling Clerk
- Appropriations Committee

Other:
- General Accounting Office
- Joint Economic Committee
- Joint Committee on Printing
- Library of Congress
  - -Publishing Office
  - -Associate Librarian for Management
  - -Central Services Division

SUPREME COURT

EXECUTIVE AGENCIES

- ACTION
- Department of Agriculture
- Air Force
- Army
- Federal Communications Commission
- Department of Health, Education and Welfare
- Navy
- Smithsonian Institution
- Postal Service
- Department of Transportation
- Department of the Treasury
- Interagency Council on Printing and Publications Services

lesser legislative importance and/or those with no legislative responsibility claimed they had problems in getting priority for their work. Some committees request work for a date that is far in advance of the document's due date to ensure the work is performed in time. The complaints in this area were that sometimes other work will "bump" these documents to the degree that the original deadline is missed. For the most part, however, committee staffs gave GPO good marks for prompt response.

In the Library of Congress, which has several different types of printing work, interviewees noted that a large amount of Library work (85% by their estimate) is procured commercially and, in general, the turnaround was characterized as slow for all types of Library work. By way of comparison, several staff cited the time difference between the few direct deal contracts the Library is allowed and the regular GPO procurement process. They stated direct deals take approximately 2-3 weeks while GPO may use up to 8 weeks or more for similar jobs. Delinquency rates for flat sheet work was estimated to run a consistent 50%.

Book work also suffers from a long turnaround time because, in the words of Library staff, it takes 6 weeks for GPO just to prepare specifications for bids. Library staff often do not see the specifications written by GPO and, consequently, do not know what the contractor has received or what type of product will be delivered. Further increasing the turnaround time, they claim, is the GPO procedure of contracting sequentially, e.g., first for composition, then for printing, and then for binding, which creates excessive delays.

Job quality was another issue where Congressional users were sharply divided, and one in which the primary problem was in-house versus commercially procured work. For most of the bills, reports and hearings printed in-house, the recipients rated the quality acceptable. Notably, representatives of both the House and Senate clerks disagreed, and claimed there was a noticeable decline in the quality of work. Some Library of Congress staff feel the quality problem with commercial work exists because GPO contracts with the lowest bidder. They have had to take some work that they did not consider acceptable by commercial publishing standards because GPO said it met the specifications and was acceptable under GPO standards.

With regard to GPO's response to complaints or requests, Congressional users were pleased with the attempts of the Congressional Information Section to keep them informed. However, they did indicate that more input into production scheduling is desired. The major concern is over the priority assigned to work because such an assignment directly affects the turnaround time involved. Committee staffs would like to understand how the priorities are assigned and be able to provide realistic deadlines to GPO.

The Library of Congress faces a different problem because it works through a GPO control desk in Customer Service. These customers feel that the control desk often distorts communications between them and the various groups who handle their jobs, e.g., specifications, procurement, and contractors. They feel distortion arises primarily because the control desk does not have enough information to adequately deal with the agencies and the printers.

We discovered during interviews that committee staff do not operate under a printing budget and do not monitor costs. The only information they receive on printing costs is a quarterly report from GPO which details the printing activity for that committee including the title of the publication, the jacket number, requisition number, number of copies printed and the total cost. The costs are applied to the overall Congressional Printing and Binding Appropriation, the justification for which is prepared by GPO. Printing costs are, therefore, not considered in budgeting for the committees. On the other hand, the Library of Congress is billed directly for its work by GPO. Invoicing was termed inadequate because the invoices do not contain enough information which specifies costs and other charges. They were also critical of GPO's cost estimates because there was some variance between them and the final cost. Also, they were curious why GPO breaks down costs on the estimates and does not do so on the invoices.

Generally, each committee is aware of the 1,000 copy limitation imposed by Section 726 of Title 44 and the $700 additional printing allowed by Section 703 and, in only rare instances, did anyone exceed these numbers. Conversations with GPO officials confirmed the relatively low number of copies being ordered by the committees.

2. Executive Department and Agency Interviews

Our interviews were designed to elicit opinions concerning a number of issues, including:

- The nature of work GPO performs for the department or agency.

- The degree and nature of, as well as their satisfaction with, GPO service.
- The degree to which GPO assists the agency or department in satisfying printing requirements.
- The response time and quality with which GPO responds.
- The various budgeting, financial, and cost estimating aspects of their relationship with GPO.

We found that agencies and departments rely on GPO to provide a wide range of printing services. Products range from multi-part forms to books and posters, and, for the most part, the users are satisfied with GPO's efforts to assist them in defining and carrying through their printing projects. The typography and design functions received good marks, especially with regard to color work. Some agencies were less than pleased with specifications developed for commercially procured work, feeling that incomplete and/or inadequate specifications cause time delays and affect product quality. The agencies generally would like to have more input into the specification process.

Customer relations and GPO response to agency or department needs was considered to be good and the GPO more service oriented than in the past. Central Office GPO was rated lower than the RPPOs in providing prompt turnaround, but no major complaints with the Customer Service operation at main GPO were voiced.

Contractor quality, while improved, was rated only acceptable. With certain agencies that require complex work the quality was more often than not considered to be poor because of GPO's awarding of work to the lowest bidder. Most respondents indicated work performed in-house at GPO to be of better quality, however, it often took longer and cost more to obtain this quality. Certain agencies with large amounts of classified work said the schedules were never met and, in light of the added surcharge of 20%, this was a source of complaint.

The agencies and departments were unanimous on one major deficiency in GPO's billing. The complaints centered on the total lack of any cost breakdowns on each invoice (a sentiment voiced by the Library of Congress), the high degree of erroneous billings (wrong amounts, incorrect addresses, requisition numbers, etc.), and the lateness with which contractor invoices are paid. Improving billing and invoicing procedures were urged to be a high priority by almost all respondents. There were few complaints about the budget information GPO supplies the agencies. Most felt GPO did an adequate job keeping them apprised of price increases and inflation factors, however, they did express a desire to get more information on the increased paper costs.

In summary, the agencies and departments were impressed with GPO's new attitude and service orientation. They feel GPO is making an attempt to respond better to their needs. As for improvements, they would like to have more "direct deal" contracts which they feel give better turnaround and more quality control over contractors. More accuracy in billing and invoicing is probably their biggest request and they would like to see action taken soon to improve the situation. In the same vein, a concern over tying better estimates of costs into the overall billing structure was expressed. Some agencies were faced with bills four to five times the original estimate, which had an obvious adverse impact upon their budgets.

D. Summary of Industry Interviews

Coopers & Lybrand has acquired a good working knowledge in the cost accounting and pricing policies and practices of printing and publishing through the provision of auditing and consulting services for many large firms in the industry. For the accomplishment of the industry survey task in this engagement, our printing and publishing industry Chairman as well as Partners and Managers in charge of various audit engagements provided information based on direct contact with selected companies as well as firsthand experience in the industry. The information provided included industry principles and practices in the following general areas:

- Product costing (both direct and indirect cost allocations).
- Billing procedures.
- Standard costing/variance analysis.
- Pricing algorithims (wholesale and retail pricing).
- Inventory valuation methods.
- Dispositions of spoilage/remainder costs.

In addition to the primary information source, i.e., through our auditing and consulting experience and interviews with several of our printing and publishing clients, secondary data was developed through published data on the subject of cost accounting, inventory methodology, pricing, etc.

III. REVIEW OF MISSION AND ORGANIZATIONAL STRUCTURE

Coopers & Lybrand's assessment of GPO's mission, functions, and organizational structure is based on review and analysis of both formal documentation and management interviews. This section provides a summary of the JCP role and an assessment of GPO's overall organizational structure as well as a more detailed review of Operations and the functions of the Superintendent of Documents (SU/DOC). Also included is an evaluation of certain policies and practices pertaining to employment and staffing, space rental, and equipment acquisition.

A. Role of the Joint Committee on Printing

The JCP's authority and responsibilities are mandated by Title 44, United States Code. Its broad jurisdiction is pointed up by Section 103 which states that the Joint Senate-House Committee "may use any measures it considers necessary to remedy neglect, delay, duplication, or waste in the public printing and binding and distribution of Government publications." Other paragraphs, dealing with a variety of specific matters throughout the statute, state that each specified action or assignment is "subject to regulation by the JCP," or must be "approved by the JCP."

The Joint Committee on Printing (JCP) is a functioning arm of Congress that serves the entire Government. As the single voice of the Senate and House it is, in effect, the active Board of Directors of the Government Printing Office (GPO) and overseer of printing.

binding, and document distrtibution for Congress and virtually all other Federal entities, including the aured forces.

The Committee membership consists of the Chairman and two Members of the Senate Committee on Rules and Administration and the Chairman and two Members of the Committe on House Administration. Traditionally the JCP chairmanship has alternated between the House and Senate. Assisted by a staff of 16 professional, administrative and clerical personnel, the gamut of JCP responsibilities encompasses a broad variety of activities including those described below:

- Establishes and promulgates the U.S. Government Printing and Binding Regulations. Also establishes and promulgates standards and specifications regarding paper use and procurement, which apply to the departments and agencies of the Government.
- Serves, by law, as final arbiter in resolving differences, concerning paper quality, between the GPO and contractors.
- Provides basic policy promoting GPO's continuing modernization of its production facilities, and the pursuit of the fullest feasible advantage of technological advances in composition, printing and binding equipment. All purchases or rentals of new equipment by the GPO require prior authorization by the JCP based on demonstrable need and cost effectiveness and the related training of operating personnel.
- Is involved in the effort to gain final congressional approval and then construction, equipping, etc., of the estimated $163 million enterprise for a new GPO location and building, which is designed to be the world's most modern printing operation of its kind. (Enlarging and/or renovating the present, inherently inefficient eight-story plant has been found to be not worth the cost. The proposed new, relocated one-story plant is designed primarily to increase efficiency throughout the production process, and to materially increase the cost effectiveness and ability to serve of the entire operation, from printing to distribution. It is estimated the savings through improved materials handling would be approximately $17.1 million a year.)

- Is the final arbiter in major GPO labor management matters.
- Oversees almost 300 department and agency printing plants, worldwide. The Committee staff monitors and evaluates their effectiveness through spot inspections and on the basis of operations and management reports each submits to JCP. Individual plants are established or disestablished, as warranted.
- Actively oversees this program whereby a substantial percentage of the Government's printing requirements -- and about 70% of that of the GPO -- now is purchased from commercial sources via competitive bids. (JCP created this program to economize, improve service and minimize competition with private industry.)
- Monitors depository libraries as this is an important means of public access to Government documents and information, ranging from congressional committee material to grant-funded research reports.
- Compiles the Congressional Directory, and supervises its publication and distribution.
- Makes recommendations to Congress for updating, revising, or eliminating pertinent sections of Title 44 of the United States Code.

B. Mission and Functions of GPO

The mission of the Government Printing Office is to provide the Legislative, Executive, and Judicial Branches of the Federal Government with printing, binding, and distribution services. Independent agencies and offices of the Government are included except when exemption is granted by the Joint Committee on Printing. The legal basis for the establishment of GPO and its mission is Title 44 of the United States Code. While there may be other laws containing references to GPO and its operation, Title 44 is the primary legal citation. The basic legislation was enacted in 1895, and the current version of Title 44 was last codified in 1968. The JCP is presently soliciting suggestions from interested parties and government officials regarding revisions to Title 44.

In addition to Title 44, GPO operations as well as all Federal printing are governed by the Government Printing and Binding Regulations published by the JCP. These regulations address specific subjects such as: equipment, JCP reporting forms, and a variety of general provisions ranging from color printing to the free distribution of publications. The regulations also provide for the authorization of Government printing facilities other than those of GPO itself. There are nearly 300 printing plants currently authorized by the JCP.

In order to fulfill its mission, GPO performs four major functions: production, procurement, distribution, and administration. The production function consists of all printing and binding operations. Of the total annual number of orders (jackets) approximately 35% are produced via in-house production. Production activities utilize the largest portion of total resources, i.e., manpower, equipment, and material.

The procurement function is divided into two activities: procurement of printing services and the purchase of production materials and inventory items. The printing procurement activity encompasses the majority of the GPO workload both in terms of the number of orders processed and dollar value. The purchase of printing services has increased significantly because of the Government's stated intention to procure from the private sector as much printing as possible. Procurement of production material, equipment, and general inventory includes a wide variety of items, e.g., paper, ink, photocomposition systems, administrative supplies, etc.

The Superintendent of Documents manages the distribution function embracing bookstore operations, subscription and mail order services, and the depository library and free distribution programs. The General Sales Program is operated in a manner to recover all costs via collection of sales revenue. The costs of the free Consumer Information Program and the Reimbursable Distribution Program are recovered through receipts from sponsoring agencies.

The administration function consists of the traditional activities of finance, accounting, security, personnel, general management services, and engineering. While administration is not a line activity, the functions of the Assistant Public Printer for Administration and Management represent approximately 20% of both the total GPO budget and GPO work force -- slightly higher than generally accepted organizational standards for these "overhead" functions.

C. Assessment of Organizational Structure

GPO is directed and managed by the Public Printer who is nominated by the President and confirmed by the U. S. Senate. Currently the Public Printer's immediate staff consists of a Special Assistant, Director of Audits, General Counsel, and Special Projects Officer. The Public Printer appoints a Deputy who directs the Operations unit

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as well as assumes the Public Printer's duties in his absence. In the role of Director of Operations the Deputy Public Printer is responsible for Customer Service, Production, Printing Procurement, and the Quality Control and Technical Department.

There are three Assistant Public Printers reporting directly to the Public Printer. The Assistant Public Printer for Management and Administration is responsible for a variety of administrative activities which are organized into seven units. The Assistant Public Printer for Planning develops and maintains GPO's Five-Year Plan and is responsible for the assessment of new technology. The third Assistant Public Printer is the Superintendent of Documents whose position is prescribed by Title 44, Subsection 1702. The Superintendent of Documents directs GPO's document sales program and the distribution of documents to depository libraries and other organizations as mandated by law.

1. The Deputy Public Printer

Under the current organizational structure, the Deputy Public Printer has a dual responsibility. First, the Deputy Public Printer assists the Public Printer in providing overall management and direction, and secondly, he has line authority and responsibility for Operations including Printing Procurement, Production, Customer Service, and the Quality Control and Technical Department.

An advantage of this arrangement is that the Deputy Public Printer can maintain familarity with all printing operations including the procurement of printing services. Accordingly, the Deputy

Public Printer is in a position to closely monitor operations and quickly effect modifications to procedures and resource allocations. This is important since production and printing procurement employ the bulk of GPO's resources. The disadvantage of the dual responsibility role lies in the fact that the management of Operations requires significant commitment and time, thereby possibly preventing the Deputy Public Printer from providing the Public Printer with the necessary overall management support.

Organizations are typically structured so that the Chief Executive Officer (CEO), in this case the Public Printer, and his deputy do not have specific line responsibilities. Rather the CEO focuses on external problems and considerations, e.g., liaison with the JCP and the printing industry, policy issues, etc., while the deputy is responsible for day-to-day functions of the entire organization. This division of work -- sometimes referred to as a "Mr. Outside/Mr. Inside" arrangement -- is important since external considerations and policy issues require a broad perspective while Operations has a considerable amount of detail to comprehend.

Present GPO management does not maximize the advantages of its organizational structure in that the Public Printer is responsible for external considerations in addition to general day-to-day management. The Deputy Public Printer does contribute to executive management; however, it is somewhat limited since his management of Operations requires significant time and as such does not routinely include the other major functions of administration and distribution services. The current division of duties between the

Public Printer and his Deputy is especially detrimental to the Public Printer since he maintains a limited staff to which he may delegate responsibilities.

On the basis of our analysis and experience in reviewing similar organizations, it is recommended GPO explore the viability of reorienting the responsibilities and duties of the Public Printer and his deputy to more closely reflect the "Mr. Outside/Mr. Inside" concept. This type of structure would enable the Public Printer to focus more attention on policy matters and be responsive to external requirements while the Deputy Public Printer would assume general management for all GPO functions. The expanded role of the Deputy Public Printer would necessitate a position be created in which responsibility would rest for the management of Operations, e.g., Assistant Public Printer for Operations.

2. The Procurement Function

The GPO procurement function is divided into two activities: printing procurement, and procurement of supplies and production material. Printing procurement activities are the responsibility of the Printing Procurement Department organized under the Deputy Public Printer (Operations). The Materials Management Service, the responsibility of the Assistant Public Printer for Management and Administration, procures all other materials and services.

As a general principle, organizational entities are usually structured so major functions and activities are aligned under one responsiblity center or unit. This approach facilitates planning, control and the effective use of resources. In the specific case of GPO, the consolidation of all procurement would facilitate the development of a GPO procurement policy, provide for improved personnel utilization, better enable the development of contracting expertise, and promote the effective employment of automated systems. These anticipated benefits are based on the fact that procurement, whether it be for printing or supplies, is a single function. We recognize that the objectives of procurement differ substantially, however, the cycle of advertisement, receipt of bids, evaluation, award, and compliance is identical in both processes as dictated by law.

Since the procurement function is divided between the Printing Procurement Department and the Material Management Service, GPO should consider a project to study the merger of the two procurement operations. The purpose of this study would be to determine if consolidation of procurement activities would promote increased efficiencies and improved utilization of manpower.

3. Customer Service Orientation

In the past few years, GPO has accomplished much to improve the service delivered to customer agencies. Many previous complaints regarding poor turnaround, inferior quality, and inadequate contract compliance monitoring appear to have been answered. However, many customer agencies still believe the current procedures and overall orientation of GPO could be modified to improve relations. The two most frequent criticisms are of the customer service procedures and GPO's planning and assistance.

Current customer service procedures require all agencies to use the Customer Service Department when inquiring about a specific job -- whether it is in the Production Department or the Printing Procurement Department. The rationale for this procedure is that it clearly identifies a single contact point and prevents customer agencies from the frustrating ordeal of locating someone who is familiar with their particular order. Although this procedure has worked well, some agencies report that it is frequently time consuming and the response to specific questions is less than satisfactory. This complaint appears to be especially prevalent in the printing procurement area when customer agencies have concerns about late deliveries and inferior quality.

While most customer agencies understand and appreciate the need for these procedures, they believe it would be beneficial to GPO and themselves to have direct contact with production and procurement when warranted by the situation. Direct contact, when required, between the customer agency and GPO production and procurement would facilitate information flow and assist in resolving problems. Specifically, contact between customer agency and production or procurement would enable the customer agency to deal directly with the GPO representative who is most likely to be able to respond to a particular inquiry.

The second major complaint concerns the level of effort expended by GPO to assist in the planning for, and determination of, printing requirements. Customer agencies feel GPO does not make an overt attempt at identifying and developing solutions to problems or potential problems that customer agencies might have with their printing programs or GPO procedures. Rather GPO appears to maintain a reactive posture, i.e., if a problem is reported frequently enough, action will be taken to correct it. Customer agencies would rather GPO develop a formal procedure to identify customer relation problems and actively assist in establishing printing programs. This type of interaction with customer agencies would also benefit GPO since it would provide an opportunity to review agency requirements, thereby allowing better projection of workloads and in-house requirements. The current GPO organizational structure does not provide for this type of activity. The Customer Service Department is oriented toward current workload and not requirements analysis or procedural improvements. Unless a unit, such as the Assistant Public Printer for Planning, could accept this responsibility, it probably would be necessary to establish a staff function to evaluate and improve customer service procedures and work with customer agencies in determining the best means by which to satisfy their requirements.

D. Superintendent of Documents

The Superintendent of Documents (SU/DOC) reports to the Public Printer and supervises the Documents Sales Service, the Library and Statutory Distribution Service and the Documents Support Service. Seven basic programs are carried out under the SU/DOC. They are: document sales, special sales, depository library program, cataloging and indexing, by-law distribution of documents, consumer information distribution (Pueblo) and consigned stock. SU/DOC operates on a $76 million budget of which $21 million is covered by Congressional appropriation to fund the depository library program, special sales, and cataloging and indexing, among others. Document sales (retail and wholesale bookselling) is now operated on a "break-even" or pay-as-you-go basis.

In terms of volumes, SU/DOC operates the world's largest subscription mailing service (416 titles), and will catalog some 41,000 separate documents, distributes over 42 million publications,operates 26 bookstores and maintains an extensive mail order business.

Starting in the late 1960's, SU/DOC was under criticism from many sources for the way it was organized and the ineffectiveness with which it operated. Testimony in various appropriation hearings as well as discussions with GPO personnel gave the project team a clear understanding of past problems. Rather than substantially repeat well-documented complaints, we shall merely note that all aspects of SU/DOC were criticized for poor performance. Therefore, during our review of SU/DOC, the project team was keenly interested to determine how much progress has been made in resolving past problems.

1. Documents Sales Service (DSS)

This is the bookselling arm of GPO and has responsibility for all aspects of document sales:

. Determination of document titles to be sold.

- Procuring sufficient quantities of the documents from GPO.
- Warehousing and inventory of sales documents.
- Operation of the mail order fulfillment system.
- Operation of GPO bookstores.
- Operation of the subscription fulfillment system.
- Addition and deletion of documents from sales catalog.
- Promotion of the various documents maintained for sale.

Performance of these activities is carried out by five divisions: Sales Management, Order, Field Operations, Retail Document Distribution, and Warehouse. Currently, there are 1,000 staff members in these five divisions. For FY 1978, a total of $50 million worth of documents will be sold by DSS, out of a total catalog of 27,000 titles.

a. Sales Management Division (SMD)

The primary duties of this division are determination of which documents will be selected for sale and how many copies of each document will be produced. Sales Management also establishes the initial, basic record for each document, which includes the SU/DOC stock number, estimated sales price, and delivery schedule. These documents are also used to make reprint decisions, provide input for selection of future titles, and provide bulk inventory data which are used to cull poor selling titles from stock. With the changeover to a "self-sustaining" program, Sales Management has begun to perform promotion and marketing activities as well. There are three organizational units within SMD:

- Documents Control Branch (DCB) controls the basic records for each title in inventory, as well as title selection. They also make the reprint, destroy and/or exhaust decisions on each title, subject to review by the Division Chief.
- Sales Media Branch (SMB) prepares subject matter bibliographies, the Subscription Service Price List (no. 36), the Selected List, and advance notification keys.
- Records Branch (RB) handles the automated Publications Reference File (PRF) which contains a list of all documents available for sale as well as planned and recently exhausted titles. It also produces a microfiche version (under commercial contract) of the PRF which is sold on a subscription basis and distributed free to the GPO bookstores. A more detailed discussion of the PRF is contained in Part Three of this report.

Selection of a title for sale is generally made from Form 3868, Notification of Intent to Publish, submitted by the agency. Each 3868 contains a capsule review of the publication, however, SMD personnel often must go back to the originating agency to get more details on the specific content. The proposed publication is compared to previous, similar titles to gauge potential customer acceptance. Current trends in national or world events, e.g., Panama Canal and Watergate, are also examined in the evaluation process. After a title is added to the sales program, these same data inputs are used to reach the publication quantity decision. SMD staff indicated they tend to be conservative in this area, believing it is better to reprint rather than carry a large inventory. Finally, the economic order point for the title is roughly calculated.

Pricing of a title is generally done by Plant Planning, however, SU/DOC, through the Sales Management Division and the DCN, will reserve the right to take exception to the recommendation. In some cases SU/DOC will assign a lower price to the document on the belief that it will enhance sales. However, SMD personnel acknowledged that documents are priced according to the Scale of Prices rather than actual cost. Further, the price schedule does not take into account extremes and is acknowledged to be higher than commercially procured printing. Given the need for the General Sales Program to "break even," it would seem prudent to attempt tracking actual costs and document pricing more closely so a valid pricing decision could be made.

Spoilage, or the discarding of obsolete or unsalable documents, presents unique problems for SMD. Exact figures for FY 1977 or FY 1978 spoilage were not readily available when the project team initially requested them. A consensus figure appears to be about $3 million worth of inventory that was destroyed in FY 1977; however, no summary data on the total number of documents nor the specific titles destroyed were available. The stock control cards, maintained by Documents Control, do contain this information, although we were unable, in this study, to pursue this topic. Other important statistics we did not uncover were the proportion of documents destroyed because they had been superseded by newer editions or declared obsolete by the agency, and those destroyed because they sold poorly. (Such a breakout would provide SMD with an indicator of their ability to select and order titles.)

b. Order Division (OD)

This unit processes orders for documents, complaints and any other matters related to the document such as mail and telephone inquiries. The staff are assigned to three main branches:

- Publication Order Branch (POB) performs all administrative processing of customer orders for general sales program documents.
- Mail List Branch (MLB) processes all subscription orders, subscription renewals, changes of address, and issues update instructions to Data Systems Service for all mail lists, including agency reimbursible and by-law distributions.
- Customer Information Branch (CIB) handles all customer mail and telephone inquiries about orders, also handles complaints from customers.

The major focus of corrective measures has been on the activities of tne Order Division because of past complaints about poor service such as lost, delayed or incorrect shipments, no information on order status, incorrect or incomplete changes of address and lack of timely order processing. Therefore, the major concentration has been on handling orders to minimize complaints and improve the servicing of subscriptions. Results thus far show a significant reduction in complaints and thorough analysis of the complaints received. Through use of automated systems, the Order Division maintains that it has cut order processing time to an average 15 days and has set a target of an average of 5 days to be achieved within the next two to three years.

Problems still exist in the subscription area such as the difficulties encountered in updating changes of address. Mail lists are currently kept by document title. If a customer sends in an address change and fails to point out the titles to which he subscribes, each mail list is searched separately to find the customer's name and in order to change the address. A new mail list data system has been proposed which would consolidate the files and facilitate renewal notice generation.

c. Field Operations Division (FOD)

This division has responsibility for the bookstores, the Consumer Information Distribution Program (located in Pueblo, Colorado), and the consigned agent program. The total staffing for FY 1978 is 231 full-time and 56 part-time authorized positions. Both categories are currently under ceiling. Pueblo and the bookstores comprise the major elements of FOD. There are 26 outlets for GPO publications throughout the country, seven of which are located in the Washington, D. C. area.

(1) Bookstore Operations

There has been a concerted effort over the past year to increase the sales volume of the bookstores by: relocating to more acessible locations, redesigning to make more effective use of interior space, providing more up-to-date reference capability through the microfiche Publications Reference File, improving procedures, and increased marketing. These developments are being phased in somewhat conservatively to ensure that the support for increased sales volume is available.

One critical area is the flow of information from the bookstores to Field Operations and vice versa. Basically only revenue and volume data, e.g., inventory value and customer count, are being collected. FOD personnel were, for example, unsure as to the cost of operating the bookstores. These data are kept by the Assistant Public Printer's office, where the budget officer is responsible for monitoring expenditures. It does not appear the stores, on a whole, are in a loss position, however, this will not be clear until the end of the fiscal year. Another subset of this overall problem relates to the amount and types of spoilage (or documents destroyed) being reported. Overall summary reports or summary reports by individual store were not available. Without accountability, the bookstore managers may not have the incentive to select titles with more precision nor can FOD tell if agencies are superseding publications too often. Control of spoilage could assist SU/DOC in maintaining an adequate general sales program and assist the bookstores in boosting revenues.

(2) Pueblo Distribution Center

The major activities of the Distribution Center at Pueblo, Colorado are:

- Distribution of the free Consumer Information Catalog.
- Distribution of free consumer information titles.
- Distribution of sale consumer information titles.
- Distribution of the Selected List of Publications, a monthly SU/DOC catalog.

. Initial order processing for Selected List orders.

Distribution of consumer information comprises about 80% of the workload and this entire function is reimbursed by the Consumer Information Center (CIC) of the General Services Administration (GSA). The CIC assembles Federal publications of general consumer interest (health, home repairs, child development, etc.) for free distribution. The titles are assembled as the "free" portion of the Consumer Information Catalog. All program management, inventory management, advertising, and distribution decisions are made by GSA; GPO acts only as an agent. The sales titles shown in the catalog are documents on sale through the Superintendent of Documents and thus a part of the GPO document sales program. The Sales Management Division at GPO Central Office makes all decisions regarding this list. The free list and the sales list result in receipt of 80,000 pieces of mail per average week at the Pueblo Branch (92,000 pieces is a peak week).

Last fiscal year, Pueblo mailed 10 million catalogs in the English language plus 151,000 Spanish catalogs (we noted that the order blank to get a Spanish catalog is written in English). Each Congressman is allowed 35,000 catalogs to distribute through the Pueblo facility. Each catalog contains approximately 250 titles for distribution; approximately 150 are free and 100 are sales titles. Approximately 25 new titles appear each quarter and about an equal amount are withdrawn each quarter. The catalogs are advertised in nationally distributed family magazines and public service TV and radio announcements as well as the Congressional distribution.

At one time, the Pueblo facility handled all order and distribution functions of Selected List documents. However, in recent months the Laurel, Maryland, facility assumed the storage and distribution function. The Pueblo facility still receives all incoming mail and does initial order preparation, i.e., bundles up the orders and sends them by express mail to Laurel where they are filled. All money included with the orders are deposited by Pueblo. Pueblo mails out 850,000 Selected List catalogs each month. The catalogs are printed by contract and the mailing labels are sent to Pueblo from the Central Office. It appeared to us that the logistic aspects of Selected List processing were needlessly cumbersome and potentially costly.

During our on-site visit to the Pueblo facility, we noted the following:

- Some "generally accepted" productivity standards established by a consultant are used and the personnel generally meet them, but they have no engineered workload standards. Center management stated they are now adjusting the consultant's standards into bona fide productivity measures. (The project staff's test mailings for consumer documents were filled in no less than twenty-three days.)
- Control of cash in the order opening process appeared quite informal. Envelopes can be opened in three different places with cash control procedures not immediately noticeable. However, most of the orders contained checks, not cash. We were told that of the $50 to $60 thousand a week, only $300 is cash.
- Although the center has virtually no inventory management authority, its automated inventory reports (run on a nearby Army computer) have a high level of stock item information for local managers.
- The center appears to have substantially more floor space than is necessary.

- The center does not make out its own budget; the Field Operations Division does that. FOD also bills GSA for the reimbursable portion.

d. Retail Document Distribution Division (RODD) and Warehouse Division (WD)

These two divisions are responsible for the storing and shipping of both bulk and retail (less than 100 copies) book orders. Both are located at the Laurel, Maryland, warehouse facility and are discussed in further detail later in this subsection. Bulk inventory is handled by the automated Publication Receipt and Control System (PRCS) which contains the stock number, title, location, number of cartons, number of books per carton, the date of the last addition or deletion and detailed picking instructions. Warehouse (bulk) staff totals 106 authorized, which are assigned to four branches: Receiving, Material Control, Storage and Shipping. The Warehouse handles 275-300 orders per day and averages approximately 6,000 back orders, down from 20,000.

Retail Document Distribution is staffed by 250 full-time employees, working both general sales and subscription documents. Laurel also has responsibility for the Selected List distribution. Each line item on an order is entered into the Retail Order Processing and Expediting System (ROPES) by the Order Division. The system then generates picking tickets in stock number sequence. This sequence corresponds to the retail stock storage areas, enabling a picker to move up and down the aisles collecting the documents. An unusual feature is that each line item is treated as a separate order and mailed separately. Therefore, if one orders 8 items, 8 separate packages will be received. SU/DOC officials are not sure what impact this has had on postage costs; however, they believe that to batch orders below 15 line items would be too labor intensive and increase mishandled orders. Orders of: 9 or more items, or high dollar amount, deposit accounts, foreign mail, different domestic postage or government purchase are "scheduled," and are entered with a special code in a batch sequence. The batched picking tickets and the actual order are matched by the Order Division (OD) and sent to Laurel for picking and shipping. OD personnel indicated they would examine the costs and effectiveness of handling 9 or more items through the "scheduled" order process to determine if the practice should be continued.

2. Library and Statutory Distribution Service (LSDS)

This unit of SU/DOC has a number of indirectly related functions within its basic responsibilities. It handles the following programs:

- Depository Library Distribution - the distribution of copies of new or revised Government publications to over 1,230 libraries throughout the United States which have been designated as depositories.
- Cataloging and Indexing - the compilation and publishing of the "Monthly Catalog" and related documents in accordance with Sections 1710 and 1711 of Title 44.
- By-Law Distribution (Free) - the storage and distribution of publications and subscription items without charge to the recipient for various Government agencies and the Congress in accordance with the specific provisions of law, which requires that the cost be borne by appropriations to the Superintendent of Documents.
- Reimbursable Mailings - the distribution of publications for other Government agencies, in accordance with Section

1701 of Title 44 of the U.S. Code. The Superintendent of Documents is reimbursed for the cost of these services by the requesting agency. Storage services for inventory are also charged to the requesting agency.

Within LSDS, there are three major divisions: Library, Statutory Stock Distribution, and Depository Distribution. Total staff is 174 full-time and 34 part-time.

a. Library Division

This group is responsible for the classification, descriptive and subject cataloging for Government publications, and the compilation of these publications into the Monthly Catalog of U. S. Government Publications. The Library Division prepares the Numerical List which contains reports and documents published by Congress by session and Congress number, and the Serial Set of Congressional reports and documents. Also, the shipping list for depository library distribution is prepared here, and the Depository Publications Reference File (DRPF), which contains every document mailed under the depository library program for the past five years, is maintained by division staff.

Two years ago, the division began entering Government documents into the Ohio College Library Center (OCLC) computerized classification file for new entries. This system has been cited by interested parties as a useful innovation in the area of government document cataloging. Criticism of the classification and cataloging operation has been reduced, in large measure because of OCLC and other innovations. However, there is concern among the library community that the division does not process documents fast enough. In addition, some Federal agencies have not been sending copies of documents to the division for cataloging, causing personnel to rely on libraries, friends in agencies and others to supply them with new documents.

b. Depository Distribution Division

This unit is responsible for fulfilling the requests for documents made by participating depository libraries. There are over 4,050 categories of documents from which a participating library may select and receive any Government publication within that category. To track each library's selection, item booklets for each category are manually maintained. These booklets contain a numerical list of each library in a sequence that corresponds to a set of bins where each day's order is assembled. Each library requesting the particular item is marked in the book, and the order assemblers work their way down the bins, placing documents in the appropriate, numbered slots.

As this report was being prepared, SU/DOC issued a Request for Proposal to examine this operation with a view towards reducing the labor intensity, improving order response and increasing efficiency through application of automation. Such improvements will provide a number of benefits to the program; chief among them are:

- A reduction in the number of claims made by depository libraries as to missing documents.
- Compatibility of GPO and participating libraries' records concerning shipments.

- Generation of a comprehensive and more accurate list of which libraries have specific categories of documents.

c. Statutory Stock Distribution Division (SSDD)

The distribution of government publications on a statutory or by-law basis as well as on a reimbursable basis is performed by this division. In addition, it acts as a consigned agent for the storage of agency publications on a reimbursable basis. The Department of Agriculture is, in terms of total line items, SSDD's biggest client with the volume estimated to be almost 80% of the total workload. Almost 60% of SSDD work is done on a by-law basis, 40% is reimbursable. Bulk storage is accepted on consignment and the costs assessed are $4.80 per pallet per quarter, $2.80 per pallet for receiving, $2.10 per pallet for a "pull down" and $4.80 per pallet for a "pull out" prior to distribution or shipping. Currently some 1600 to 1800 titles are stored in two warehouse locations.

SSDD has a total of 63 staff in three branches with 41 in the Agriculture Branch, and the remainder spread between the Agency Mailing Branch, and Consigned Receiving and Storage Branch. The Agriculture Branch averages 358,000 orders per year.

All recordkeeping is manual including warehousing and storage, workload and performance data. Records are designed to give basic information, and lack of summary reports precludes detailed workload analysis. Plans have been drawn up for an automated Consigned Order Processing and Inventory Control System (COPICS) to improve recordkeeping and permit more analysis of workload and volume data. No dates were given for design or implementation of COPICS.

3. General Observations on Document Sales

The purpose of reporting these observations is to identify additional areas in which improvements in performance and effectiveness have been made or might be initiated.

a. Improvement in Customer Service

There has been noticeable improvement in customer satisfaction when compared to the reported situation several years ago. Complaints, a major indicator of performance and customer satisfaction, are fewer in number, orders are generally processed within ten days and are more accurately filled, and the bookstores are better able to research and respond to customer orders due to the PRF microfiche.

Achievement of these improvements has involved extensive use of automated systems designed as individual units rather than an integrated system. SU/DOC management recognizes the need to integrate these systems into a more cohesive unit and integrate data elements. Several projects are underway to study and implement this process, however, it is unclear whether the resources necessary for implementation will be available. Should integration not take place soon, the duplication of functions necessary for effective operation of SU/DOC activities may unnecessarily increase operating costs. Also, the problems of data not being captured by one or more of the independent systems could be magnified. Since SU/DOC's General Sales Program is now required to be "self-sustaining," it is important that a cost effective system be developed.

b. Operation of Bookstores

During visits to the several GPO bookstores, the project team noted the stores appeared to operate somewhat autonomously, with each individual manager having a large degree of discretion in the selection of titles to be sold, destruction of "old" stock, maintenance of inventory levels and ordering, and promotion of bookstore activities. There also appeared to be very little each manager was held accountable for in terms of how well the particular store is operated. For example, managers are allowed to select the titles they feel will sell best and they are allowed to destroy stock which does not move quickly; most managers are not measured against the amount of books they take out of inventory. Marketing studies to determine if the proper mix of titles are being offered have not been undertaken, nor have inventory practices of the stores been examined.

Given the current methods of inventory accountability practices and valuation, the apparent lack of concern with measuring costs of operation and the lack of clear guidance from Central Office, it is interesting that sales have shown some increase; however, the relatively low percentage (about 3%) is indicative of the "doldrums" in which the stores operate.

The project team recommends that each bookstore be put on a self-sustaining basis by instituting a system whereby inventory is "sold" to each store at some level below its "retail" or cover price value. This would provide the stores with an operating margin and, with these funds, they would be responsible for paying all costs of operation. In effect, our recommendation is that all managers strengthen the attention given to the "business side" of bookstore operation as well as strengthening the level of accountability of bookstore managers. We feel that whether bookstores should be profitable is a debatable issue; that bookstore managers be held accountable is not.

Field Operations personnel are aware of these problems and hope to address the situation. Since there has been a change in management in recent months it is, of course, too early to expect substantial results. However, should current management follow through with its desire to make the bookstores more "entreprenuerial" in nature and provide managers with some tools whereby they can truly manage, bookstore operations will likely show improvement.

c. Process for Title Selection

Some concern should be shown over the process by which titles are selected for the General Sales Program. Current procedures stress historical sales factors, current events and personal judgment. SU/DOC personnel feel these criteria are valid; yet, various user agencies expressed ignorance of, and some displeasure with, the selection procedures. The major complaint is the lack of justification as to why a particular title was not selected for sale.

4. Operation and Management of Inventory

Inventory Management can be segregated into two components, operations management and management of the inventory investment. Operations management refers to the physical processes of ordering, receiving, controlling, storing, shipping, and reordering merchandise. Based on the volume of orders processed, number of titles stocked, order turnaround time, error rate, and size of facilities managed, the two Laurel, Maryland, warehousing facilities appear to be operating in an overall efficient manner. That is, orders appeared to be processed and merchandise seemed to be moving through the warehouse efficiently.

Management of an inventory investment entails the balancing of prompt service delivery against a minimum investment in inventory. Inventory is an asset which has direct costs associated with it, such as: interest, personnel, warehouse space, heat, lighting, insurance, etc. The smaller the inventory investment, the lower the dollar costs associated with that inventory. Alternatively, sales personnel are concerned with prompt service to customers. Sales personnel ideally would prefer unlimited inventories in order to respond rapidly to customer needs. However, the costs of carrying such an unlimited inventory (i.e., interest, etc.) would be prohibitive. Inventory managers therefore must weigh the advantages of lower inventories (i.e., lower operating costs) against the corresponding disadvantages (i.e., slower service delivery).

We noted that Warehouse and Retail Distribution Division personnel did not know how many dollars of inventory were either in stock at one point in time or had moved through the warehouse during a period of time. Further, inventory carrying costs (i.e., those costs attributable to carrying the inventory investment) had not been calculated. Without knowing this information, it is difficult for us to measure the efficiency of an inventory management program. We were advised, however, that on average the warehouse inventory turned once every 18 months. In addition, warehouse personnel told us that the average reorder time for a publication was 6-8 weeks. Even if provisions for safety and buffer stocks are considered, an eighteen-month inventory stock appears excessive. We recommend that current and expected levels of inventory be examined to determine whether they are excessive when compared to the level of service desired for GPO.

Backorders result when an order cannot be filled because the desired item is not in stock and, therefore, cause customer orders to be delayed. However, a larger volume of backorders does have the advantage of lowering the investment in inventory. As of April 1978, approximately 5,000-6,000 backorders were on hand, representing an unknown dollar investment. Since we were not provided with data that would allow us to determine the overall (dollar) investment in inventory or inventory throughput, we cannot comment as to whether this number of backorders is either too high or too low. We do recommend, however, that the level and composition of backorders be examined in order to determine whether more backorders could reduce the inventory investment without impairing service delivery standards.

Finally, the dollar volume of inventory which must be destroyed or is rendered obsolete compared to the total inventory investment is one measure of the efficiency of the sales order department. Due to a lack of sufficient data, we are unable to comment on whether the annual volume of inventory destroyed or rendered obsolete is excessive.

In summary, the operational side of the Laurel, Maryland, warehouse facility appears basically sound. In terms of inventory management, however, a lack of cost data relating to inventory at a point in time, throughput, backorders, inventory writeoffs versus total inventory, and inventory carrying costs precludes an adequate assessment of tne efficiency of this operation.

E. Printing Procurement

The Printing Procurement Department is responsible for all printing services procured by GPO. This department also has responsibility for all field printing operations. The Printing Procurement Department Manager, who reports to the Deputy Public Printer, supervises the Analysis and Review Staff, Commercial Printing Specifications Division, Central Office Printing Procurement Division, Field Printing Division, and Regional Printing Procurement Division.

It is estimated for Fiscal Year 1978 the Printing Procurment Department will be responsible for approximately 235,000 purchase orders as contrasted to about 134,000 production orders for the same time period. Of the total estimated workload of 235,000 orders, about 173,000 (73%) will be processed in the Regional Printing Procurement Offices (RPPOs). Additionally, the field printing plants will process an anticipated 31,000 orders.

1. Organizational Structure

The Printing Procurement Department consists of four divisions in addition to the Manager's office. Each division is briefly described in the following paragraphs.

a. The Manager's Office

The Manager of the Printing Procurement Department maintains a staff of 11 people, both professional and clerical. The Manager directs and coordinates all departmental operations. He is assisted by the Analysis and Review Staff that performs a variety of support functions including: operations analysis, planning, management analysis, and procedural development and review. Until recently departmental operations were directed, coordinated, and reviewed by the Manager or his Deputy. The addition of the Analysis and Review Staff has relieved departmental management from detailed analytical chores while simultaneously increasing the frequency and quality of operations analysis and support.

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b. Central Office Printing Procurement Division

Central Office Printing Procurement Division (COPPD) has a work force of nearly 90 people. It is estimated for FY 1978 that COPPD will process about 62,000 orders. This workload equals approximately $139,000,000, or about 50% of the dollar value of all printing procured by GPO. COPPD consists of six organizationally discrete units:

- Contract Compliance Section is responsible for: site inspections to ensure a contractor is qualified to execute a particular job, checks on delivery, and quality of product.
- Special Handling Section guides priority work through the procurement process and ensuring user requirements are satisfied.
- Term Contracts Section administers GPO term contracts for printing recurring publications such as newletters, journals, etc.
- Certification and Award Section is responsible for traditional procurement functions such as preparation of invitations, evaluation of awards, and financial report preparation.
- Accelerated Schedule Contracts Section duties are associated with term contracts requiring short turnaround jobs.
- Marginally Punched Continuous Form Contract Section administers this contract for government use as well as one-time orders for this type of product. This requires the staff to maintain liaison with user and industry representatives.

c. Commercial Printing Specifications Division

The Commercial Printing Specifications Division (CPSD) provides support to COPPD and regional procurement offices by writing procurement specifications. This division provides expertise not only in general specifications but also for color work, composition, data forms, and specialty items. CPSD coordinates with the Customer Service Department and the Scheduling Committee in determining user requirments and deciding if an order should be done in-house or through procurement.

Another function of CPSD is the development and maintenance of standards, and the preparation of technical information regarding procurable items in the open market. The area of specification standards is becoming increasingly important as CPSD moves toward the application of automated systems and word processing equipment in preparation of procurement specifications.

d. Regional Printing Procurement Division

Regional printing procurement services are offered at fourteen locations including the Regional Printing Procurement Office (RPPO) at the Washington Navy Yard, which is largest in terms of annual number of orders processed. RPPOs are directed and controlled by the Division Superintendent at the Central Office. The RPPOs offer the same services to their regional customers as are provided by COPPD and CPSD. They account for nearly three-quarters of the total number of printing procurement orders processed each year. The Superintendent and his staff provide the RPPOs with management support, e.g., budgeting, personnel matters, liaison with other GPO units, etc. The RPPO manager contacts main GPO for advice and contracting authority on particular types of procurements.

e. Field Printing Division

Field printing plants are located in six cities: New York, Chicago, Denver, San Francisco, Seattle, and in Washington, D.C. at the Navy Yard. The managers of the New York, Seattle, and San Francisco operations have a dual responsibility as managers of the procurement function located in those cities. It is projected Field Printing will complete over 31,000 jobs during 1978. Like main GPO, the field printing plants do work for Executive departments, agencies and the military which is not readily procurable because of the type of work or turnaround required.

2. Observations in Printing Procurement

Review of organizational documentation and interviews with management and key staff of Printing Procurement have resulted in the following observations. The purpose of reporting these observations is to identify areas in which improvements in performance and effectiveness might be initiated.

a. Organization of COPPD and CPSD

The current organizational structure of the Printing Procurement Department includes four functionally oriented divisions and the Analysis and Review Staff. CPSD is subdivided into eight sections while COPPD is organized with six sections. The organizational structures of CPSD and COPPD appear to be based on functional divisions, with each section assigned responsibility for a particular aspect of specifications or procurement.

As the name implies, COPPD is responsible for main GPO printing procurement. This is also true of CPSD even though technically CPSD provides some support to the RPPOs. However, such support is infrequently required since RPPOs are usually sufficiently staffed to fulfill local needs. If this situation continues to be the norm, the division between COPPD and CPSD will become less distinct. Furthermore the organizational dichotomy of the procurement process, i.e., specifications in one division and procurement in another division, is artificial in that procurement is obviously based on specifications. These activities are interrelated and cannot be logically separated on a functional basis.

In addition to reducing the number of divisions, the advantage of consolidating COPPD and CPSD is that consolidation would provide for more control, additional opportunity for planning, and reduced managerial overhead. These advantages are based on the assumption that consolidation of activities under one superintendent would facilitate coordination of workflow from specifications to procurement. Additionally, by reducing the total number of sections there would need to be fewer supervisors reporting to division management. Examples of unit reductions include: the COPPD Special Handling Section could be combined with the CPSD Pre-Planning Section, the COPPD Term Contracts Section merged with Accelerated Schedule Contracts Section, and the activity associated with marginally punched continuous forms placed in a single unit. It is therefore recommended that Printing Procurement initiate a study of COPPD and CPSD to determine the feasibility of consolidations.

b. Location of the Field Printing Division

All Printing Procurement divisions deal with procurement except for the Field Printing Division (FPD). This creates a potential situation in which FPD is not adequately controlled or planned because management processes, reports, etc., are geared toward the procurement function.

It appears advantageous to organize FPD into the Production Department since FPD is production-oriented and bears little or no relationship to procurement. If located in the Production Department, FPD would have immediate access to technical expertise and would respond better to production-oriented management planning and control. On the other hand, if FPD were absorbed by the Production Department there is a possibility that the field printing function would tend to be ignored since current production is heavily oriented toward Congressional work which is generally not an FPD activity. Furthermore, placing FPD and the RPPOs under different management may constrain the ability of the two units to effectively coordinate.

In addition to examining the organizational placement of FPD, it is also recommended that GPO review the need for maintaining field printing plants. During our documentation analysis and on-site review of printing plants, we found indications that some field plants are underutilized and do not provide a unique service. These observations are based upon review of production workload versus current staff, equipment inventory, and hours of operation. Certainly these observations do not suggest an immediate closing of all facilities; however, the nature of these considerations do warrant further study to determine the viability and requirement for all field printing operations. This type of study would need the cooperation of the JCP staff since the viability of field printing plants is directly related to other Government facilities in the area for which JCP is responsible. As such, the JCP staff needs to develop an evaluation criteria and methodology for the periodic review of printing facilities. It is also recommended that GPO develop adequate management controls to effectively monitor all aspects of field operations.

c. Requirement for the Region 3 RPPO and DSO

The Printing Procurement Department regards DSO as a rapid turnaround facility that complements the Central Office production function. That is, smaller jobs with less than a 10-day time requirement are handled at DSO. However, it is apparent that main GPO operations regard DSO as an unintegrated ancillary operation. An obvious alternative would be to reorganize DSO under the Production Department in order that the two units might more effectively coordinate workloads, functions, etc. It is therefore recommended that GPO initiate a study of the DSO in terms of its function and operation relative to those of the Production Department, Region 3 RPPO, and the Printing Procurement Department.

Region 3 RPPO offers customer agencies with service identical to that provided by Central Printing Procurement. It appears customer agencies prefer using Region 3 RPPO because of better turnaround and the convenience of direct contact with the procurement staff. The preference of customer agencies to work with Region 3 RPPO provides an indication of the dissatisfaction with Central Office customer service procedures as do the similar observations reported elsewhere in this report. Furthermore, the location of Region 3 RPPO within the same geographic area as the Central Office suggests a duplicative activity maintained to compensate for inadequate service delivery by the Central Office. We, therefore, advocate a study of Region 3 RPPO to determine how it might best be utilized in serving customer agencies and complementing Central Office operations.

d. Management of Field Operations

Interviews and documentation analysis conducted at the Central Office suggest a centrally controlled management system with feedback reporting and input to planning, budgeting, etc., coming from the field. While the division superintendents at main GPO indicate satisfaction with the current system and procedures, there is a different perception in the field.

It appeared to the project team that the RPPOs and field printing plants operate autonomously. They receive rudimentary guidance from main GPO and provide limited feedback. It was noted during our site visits that managers of RPPOs and field printing plants received little guidance in terms of management plans, i.e., performance budgets, objectives, etc. Field managers acknowledged they seldom used the management reports developed by Central Office regarding productivity, workload, etc. Additionally there is an apparent lack of standardization in the orientation of the RPPOs. For example, some RPPOs rigorously enforce rules and regulations and actively solicit work from customer agencies while other field procurement units take on a more passive role.

The current situation in the RPPOs and field printing plants indicates these units are not adequately and consistently directed or managed. The manager of the Printing Procurement Department is cognizant of this situation and is taking action to improve the management and control of field operations. An example of PPD efforts is the Management Evaluation System (MES), which is designed as an overall management plan and supporting monitoring system. The MES includes a monthly review of all operating units, thereby increasing accountability and management control.

e. Relationships with Customer Agencies

Interviews with customer agencies indicated that problems with printing procurement have lessened in the past two years. Users report the Printing Procurement Department has become more aware of problems in procurement and contract compliance. However some problem areas continue. These include the following:

- Users report specifications are not accurately transmitted to contractors. It is their opinion that Printing Procurement arbitrarily alters specifications. While this is acknowledged as being allowed under Title 44, the users claim that often they are not informed of such changes.
- Customer agencies with resident expertise do not believe they should be levied the full surcharge when they submit complete specifications. Users believe that when it is possible to provide GPO with complete specifications they should not be rewritten without explanation.

- Some users continue to believe Printing Procurement does not vigorously enforce contract compliance.

Printing Procurement is aware of these problems and is working to resolve them. It is expected that as Printing Procurement goes forward with the use of automated systems, improved procedures, and comprehensive printing procurement regulations, customer relations will continue to improve. In the past year the Department has taken some positive steps including establishing the Analysis and Review Staff.

F. Production Department

The Production Department is responsible for the completion of all printing and binding work assigned to the Central Office plant by the Planning Services Division of Customer Service. Reporting to the Deputy Public Printer for Operations, the Production Manager supervises five major divisions: Composition, Letterpress, Offset, Binding and Electronic Photocomposition plus two smaller groups, Branches and Details, and the Delivery Section.

1. Organizational Structure

This department is responsible for the daily production of the Congressional Record and the Federal Register, all Congressional bills and laws, the majority of Congressional reports and documents, White House documents, and urgent, complicated, and classified publications for various Federal agencies. In FY 1977, this department composed an estimated 2 million pages of work, made over 600 million impressions, produced over 87 million books and handled 195,000 shipments and pickups. Because of the need to make better use of improved composition and printing technology, it is conceivable that volume will continue to increase over the next five years, while at the same time the department will be faced with a problem in relocation of resources. The impact of these changes will be discussed in detail below.

a. Manager's Office

The production manager maintains a staff of 24 people, including printing specialists and clerical personnel. The printing specialists are assigned to assist the division superintendents and also handle engineering, special project and budget matters. A major effort of the Manager's Office involves coordination for Congressional work. This effort is made difficult by the inability of this office to gain accurate information about the location of a job in the production cycle.

b. Composition Division

This division is responsible for taking copy submitted by the client and setting it into "hot metal" type prior to printing. This requires a number of steps from the marking-up of copy for the linotype and monotype operators, to proofing of the type set, to final makeup of the type into pages for printing. The technology used in this division has not changed for over half a century and many of the machines date from the 1920's. With the advent of electronic photocomposition, this division has been reduced in size over the years and the current five-year plan is to reduce it even further. It is estimated that by 1984 less than 300,000 pages of type will be set as compared to over 1 million in 1976. Personnel strength is estimated to drop from the 1976 level of 1,500 to less than 350 in 1984. Since there will be a corresponding increase in the number of pages phototypeset, many of the existing compositors are being or will be trained to work as photocompositors. However, the transition to photocomposition appears to be going slower than planned; therefore, Composition Division is faced with a stable (or slightly increased) workload and a declining work force since compositors are continually being transferred to electronic composition. Much management time is spent balancing these factors to ensure work is completed.

c. Electronic Photocomposition Division

This division is responsible for the production of photocomposition and, as part of this, the increased conversion of publications from the traditional hot-metal methods to photocomposition. The division also assists clients by offering information and consultation concerning their interface with GPO photocomposition systems. To accomplish its responsibilities several functions are performed including: keyboarding of copy into the computer, page makeup, galley preparation, proofreading, data base tape translation, programming, and generation of phototypeset film which is used to make printing plates.

The project team noted the presence of a number of services within Electronic Photocomposition Division (EPD) that replicate other organizational units of GPO. For example, EPD has a twelve-person customer liaison staff to perform photocomposition-related technical assistance for various agencies. It also provides photocomposition-oriented typography and design services, does its own scheduling, and is charged with reviewing applications of electronic photocomposition within the Federal agencies.

EDP staff maintain that the complexity of the technology as well as the lack of understanding of what photocomposition is among GPO officials requires these services be resident in the division. We are not, at this point, in a position to dispute this; however, as GPO makes the transition to more photocomposition, it would be, we think, appropriate that an effort be undertaken to ensure that duplication is avoided.

This division is also feeling the effects of the transition and the balancing of existing work and the need to retrain traditional compositors. The recent conversion of the Federal Register and the Code of Federal Regulations to photocompositions and the pending conversion of the Budget will aid in the equalization of work and staff resources.

d. Offset Division

This is one of two "press" divisions, which processes any reproducible through lithographic techniques. The division also inspects and stores any lithographic reproducible produced in-plant or commercially, if requested. There are four sections in the division: Offset Copy Preparation, Offset Negative, Offset Plate and Offset Press. Their duties are described below:

- Offset Copy Preparation Section prepares camera copy or reproducibles for plant or commercial production, and inspects commercially prepared reproducibles.
- Offset Negative Section produces halftones, tints and line negatives or positives, assembles page elements by compositing or stripping, and processes various proofs.
- Offset Plate Section imposes film reproducibles for platemaking, produces offset plates including negative or positive presensitized plates, grained negative wipe-on plates, deep-etch and bimetal plates, as well as stores all film and paper reproducibles for plant and commercial production.
- Offset Press Section produces printed matter by the offset method by use of rotary sheet fed and web offset presses.

As more photocomposition work is generated, more offset work will also be required and the major increase will be in pre-press operations. Technology is a major factor in the increase of offset press work. Organizationally, there seems to be little or no problem with the current structure since it follows the production process utilized in offset printing.

e. Letterpress Division

This division is responsible for printing all work that requires the letterpress process. Letterpress involves the use of raised type which is inked and pressed onto the paper (direct impression). Letterpress techniques, like the hot metal type process which provides the printing plate, are being phased out. However, the existing letterpress equipment represents a large investment and is not easily written off. Therefore, a photopolymer process is being used to develop plates from camera copy with raised surfaces much like a linotype or monotype plate. A magnetic "saddle" is placed on the letterpress to hold the photopolymer plate in place. This area is a good example of GPO's program to adopt existing and new printing technology for more cost-efficient processes.

f. Binding Division

The Binding Division's major responsibilities include performance of all finishing operations relative to bookbinding and to wrap, seal and ship finished product. Major activities include storage of printed sheets prior to binding, cutting, folding, gathering, trimming, drilling and jacket close-out. The major groups within the bindery are: Book Section, Pamphlet Section, Blank Section, and Classified (Security) Area. The Book Section produces adhesive binding and sewn binding; the Pamphlet Section does basic cutting prior to folding, gathering or inserting, and finishing, library bindings, special award covers and small lots; the Blank Section does most flat cutting of printed or blank stocks, drilling, perforating and stripping. Passport work is considered controlled or classified work, and all such work is handled in the Passport Section. Current bindery staff totals 1,020, divided into two shifts. On any given day up to 300-plus jobs are in the bindery, and the completion rate runs 75 to 150 per day, depending on the complexity of the jobs. The Bindery Division Superintendent has two assistants who monitor daily workflow and hold daily meetings with the foremen to determine production priorities.

Binding, the end of the end production line for plant work, is often cited as the major bottleneck in the plant. However, being the last production step means that any schedule slip in the production process adversely affects the bindery schedule. Further aggravating the problem, bindery operations are spread over five floors, which requires close control of the movement of immense amounts of both items to be bound and finished product. Because of the constant movement among multiple locations, work is easily misplaced and bindery personnel often do not know the status of a particular job.

In direct response to these problems, a control center has been established to pinpoint how much work is in the bindery, the location of the work and its production schedule. The center counts signatures to ensure the entire press run has been delivered to the bindery, tracks dates that jobs are received and compares this to the date that delivery was scheduled. In addition, the center is currently peforming intermediate scheduling for each production step within the bindery. The center started pilot operation in October 1977 and is scheduled to be completely operational later this year.

2. Observations in the Production Department

Based on the results of our interviews and reviews of appropriate documentation, the project team developed some general observations. The major observation deals with the scheduling required to satisfy the varied priorities which in-plant production must consider. GPO must balance the need to complete Congressional work quickly with the requirement to maximize production resources. Because daily Congressional workload is difficult to predict, a certain percentage of production capacity must be held in reserve for this work. Agency jobs are used to balance workload; however, the consideration of Congressional "hot" jobs is a constant concern. The impact upon effective scheduling is obvious and the need for a better scheduling system is recognized by GPO. An automated system (OMIS) is in the pilot development stage and is discussed, in detail, in a later section of the report.

The project team noted the actual scheduling function is not located within the Production Division but in the Plant Planning Division of the Customer Service Department. In effect, the Production Manager must meet a schedule over which he has no direct control. It is true that a representative of the Production Department sits in the Production Scheduling Committee and that "open" jacket work, which is mostly Congressional jobs and constitutes the bulk of GPO's in-plant work, is not processed through the Committee. Based upon these factors, it would appear that the existing arrangement is satisfactory. However, the work that is scheduled through the Committee is used to increase plant utilization and as such is important to GPO's fiscal picture. Because of problems Production faces in tracking work in-plant, the accuracy of the data used to schedule new work might be questionable enough to impede more effective scheduling. Therefore, the Production Department should either have more direct control over in-plant printing schedules or increased input into the Scheduling Committee. There are additional scheduling and control and related problems discussed in Section IV.

A second observation concerns the use of technology in production. GPO appears to be aggressively pursuing modern innovations in all areas of printing and binding with an eye toward lowering its greatest fixed cost: personnel. GPO is looking toward automation as an answer to increased salaries and lower productivity. However, GPO needs also to examine cost-benefits when looking at the new technology. It would be beneficial if each proposal for application of new technology in the area of production be subjected to a thorough cost-benefit analysis projected over a long-term period. To some extent this procedure is utilized within GPO. The project team agrees with those managers who feel it should be expanded and enforced.

G. Customer Service Department

The Customer Service Department is under the immediate direction of the Customer Service Manager who reports to the Deputy Public Printer (Operations). Customer Service acts as the liaison with Congress and agencies regarding their printing and binding requirements, serves customers by providing technical printing expertise, and coordinates production planning and scheduling within the main plant.

1. Organizational Structure

The Customer Service Department is organized into three divisions: Planning Service, Typography and Design, and Plant Planning.

The Planning Service Division has the first and most extensive interface with the GPO customer. The division has four sections:

- Requisition Section receives and reviews all incoming printing requisitions, issues jacket numbers, and determines whether the work is to be procured from commercial sources or produced in-house.
- Special Services Section develops programs for requisitions requiring extensive research and investigation, assists in the development of specifications and instructions for such work, and performs such other assignments as are required pertaining to production, procurement, or distribution of printing.
- Congressional Information Section receives and negotiates production schedules on Congressional printing orders, maintains progress records thereon, and conducts liaison with Congressional staff and the Production Manager on Congressional orders.
- Departmental Information Section is the liaison between Federal agencies and GPO regarding the status of printing requisitions and related matters.

The Typography and Design Division has four sections to provide service to GPO customers: Technical Review Section, Typography Section, Art and Illustration Section, and Photographic Section. This division reviews and clarifies printing specifications; develops and prepares appropriate formats, designs, and artwork in connection with new publications; and performs photographic processing for reproduction.

The Plant Planning Division is responsible for reviewing all accepted requisitions and print orders, developing production plans and schedules, preparing cost estimates and developing sales prices, and maintaining and controlling inventories of paper and paper products. The Division has four sections: Production Planning and Scheduling Committee, Estimating and Jacket Preparation Section, Intermediate Scheduling Section, and Paper and Materials Control Section.

2. Workload

Federal agency printing jobs are handled through the Planning Service Division's Requisition and Departmental Information sections while the Congressional Information Section oversees all Congressional work. Although most of the organizational units within the Customer Service Department are organized to service the Federal agencies, we were told that their first priority is to get the Congressional work done rapidly and without complaint. Their emphasis and degree of service to the Federal departments reflect this philosophy.

Federal departmental printing is either contracted to commercial printers or is scheduled around higher priority Congressional work in production. During our review of the Customer Service Department we found little formal data about workload statistics for agency printing. However, from the "Annual Report of the Public Printer" for fiscal year 1977 we noted Federal agency billings represented over 79% of all billings for the GPO. This represented over 96,000 requisitions or an average of about 370 orders per week.

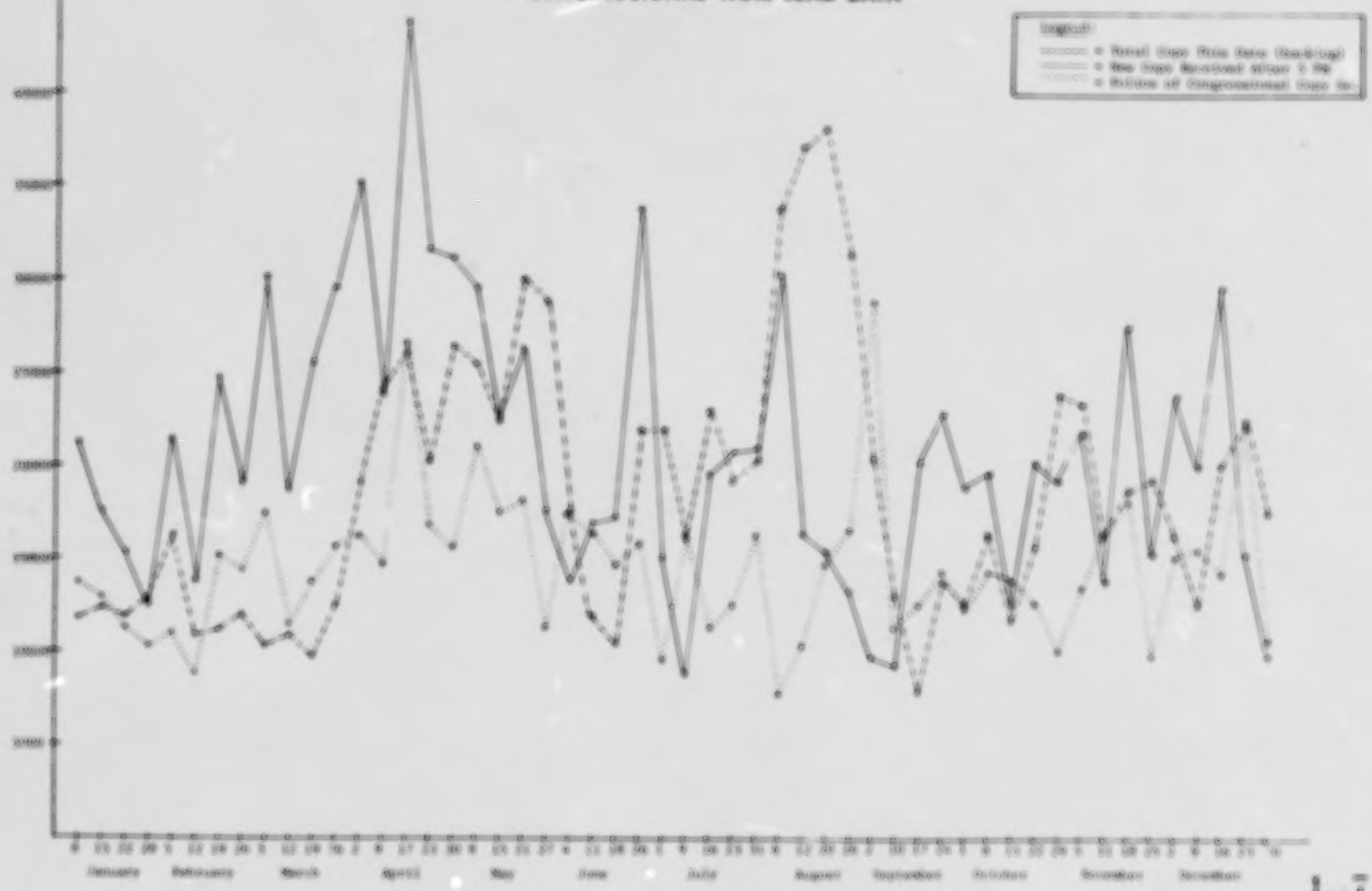
Workload data were available for Congressional material from the Night Composing Division which is under the direction of the Night Production Manager. Data are kept for three categories of material. The first category is the Congressional Record, the second is bills and resolutions, and the third is other Congressional documents including committee prints, hearings, reports, etc.

Exhibits 1-2 and 1-3 on the following pages display one year's weekly statistics with regard to the Congressional material: (1) number of actual pages of the Congressional Record typeset, (2) number of estimated pages of Congressional bills and resolutions typeset, (3) total number of pages of Congressional copy on hand, i.e., backlog (excluding the Record and bills and resolutions), (4) number of folios (pages) of Congressional copy (excluding the Record and bills and resolutions) set each day, and (5) total number of pages of new Congressional copy (excluding the Record and bills and resolutions) received each day. Plotted graphically, these statistics give an indication of the volume and variability of Congressional workload over the period examined (1977).

a. New Copy Received Each Day

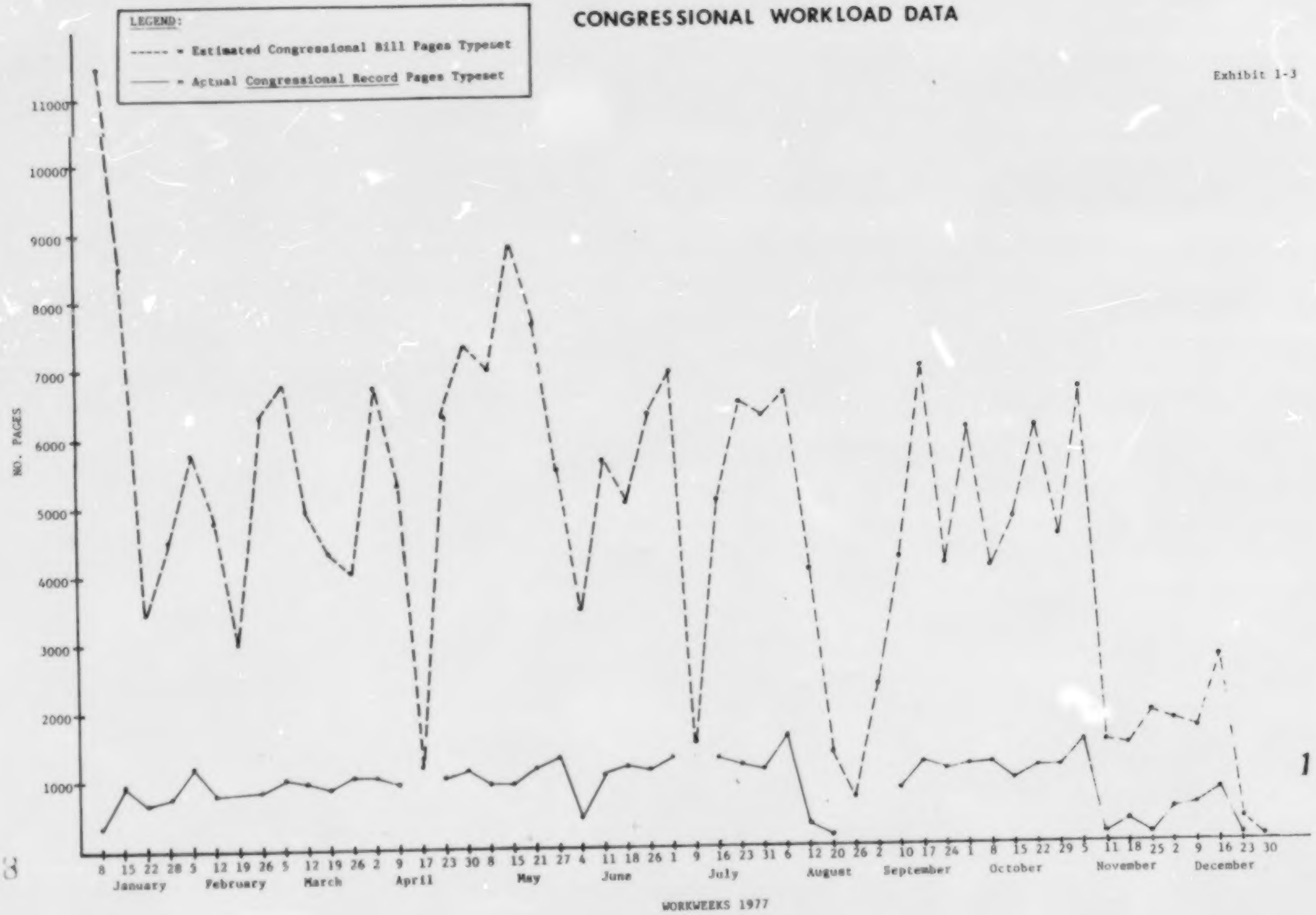
As can be seen in Exhibit 1-3, the weekly volume of incoming Congressional copy varies considerably, from a high of over 43,000 folios for the week of April 11 - April 17 to a low of just under 9,000 folios for the week of July 5 - July 9. The variability can be

CONGRESSIONAL WORKLOAD DATA



CONGRESSIONAL WORKLOAD DATA

Exhibit 1-3



extensive. For instance, during the week of June 13 - June 18, approximately 17,000 folios were received. During the next week, almost 34,000 folios were received -- a 100% increase. Just as rapidly, the inflow decreased again to 15,000 folios the following week.

b. Folios of Congressional Copy Typeset Each Day

The number of folios of Congressional copy typeset each day also varied considerably. The highest total for any week of 1977 was approximately 29,000 folios from August 29 - September 2 (five working days). Alternatively, the lowest number of folios typeset for any week was almost 8,000 during the week of August 1 - August 6 (six working days). Like the volume of incoming copy, the number of pages of Congressional copy set from week to week also varied considerably. For instance, in consecutive weeks in August and September, the volume of copy typeset went from 17,000 to 29,000 and then back to 11,000. Generally, the volume of copy typeset varies directly with the volume of incoming copies received, although at times the backlog appears to increase considerably.

c. Congressional Copy on Hand

As with the previous categories, this statistic varied considerably in 1977. This statistic generally is dependent upon the volume of copy received and typeset each week. But apparently these are not the only factors affecting backlog because there were instances when a reduction in backlog did not occur when copy typeset exceeded copy received or when backlog increased in spite of the fact that volume of copy typeset exceeded the volume of copy received.

	New Copy Received (1)	Folios Typeset (2)	Difference (2)-(1)	Copy on Hand (3)	Previous Week's Copy on Hand (4)
5/31-6/4	13,750	17,147	+3,397	17,312	27,276
6/6-6/11	17,225	16,332	- 893	11,931	17,312
6/13-6/18	17,400	14,270	-3,130	10,520	11,931

For example, the table above demonstrates that, for the first week, although the volume of copy typeset exceeded the volume of copy received by 3,397 folios, copy on hand decreased by 9,964 folios. Similarly, during the second week, copy on hand decreased by 5,381, yet the volume of new copy received exceeded the volume of copy typeset by 893 folios. Finally, during the third week shown, the number of folios received exceeded the number of folios typeset by 3,130 folios, yet the backlog still decreased by 1,411 folios rather than increase as would be expected. A possible explanation for these discrepancies is that "camera" copy is not counted with copy typeset or copy on hand which would affect the various totals. Another explanation would be that the statistics are manual estimates subject to large margins of error.

d. Congressional Bill Pages Typeset

The second chart, Exhibit 1-3, demonstrates that this statistic also varied considerably. The volume of pages typeset ranged from 11,432 to 615. Again, there were severe weekly fluctuations.

e. Congressional Record Pages Typeset

This workload indicator demonstrated the greatest consistency of all the categories displayed -- generally around 1,000 pages per week except during periods of or near Congressional recesses.

f. Conclusions

Except for the Congressional Record, the inflow of Congressional bills and other copy is highly variable in terms of volumes of copy (This assumes that the estimated Congressional bill pages typeset can be considered as incoming bill copy; we found no backlog figures for bills.)

Generally, the copy-on-hand total can be considered as a Congressional backlog figure which is derived from the volume of copy received and typeset each day. However, there are several inconsistencies with this application and it should only be considered as an approximation.

It is also apparent that with the large variance in weekly typesetting totals, the backlog is not being used to keep a consistent production level. We recognize that production levels will vary as daily decisions are made as to what must be typeset for the next day.

3. Other Observations

The Planning Service Division has little automated data processing support. Information flows by manual processes -- primarily

1.2

personal contact, telephone conversation, and written communications. Additionally, all records are kept manually. As a result, information can be misinterpreted or lost. The dependence upon memory and "cuff" manual records decreases management's ability to monitor and control effectively. There is no comprehensive information base which would permit the various sections to interface with each other and the other divisions and departments under the Deputy Public Printer (Operations). Thus, managers are forced to manage by exception with little regard to sectional, divisional, or departmental objectives. The result is complaints and/or problems will receive the highest priority which may even further disrupt normal production or operational processes. The Planning Services Division informally measures success by whether complaints are received, whether production schedules are met, and whether the product quality is satisfactory -- even though these measures are not quantified.

Another area which reinforces our impression of a lack of information for overall management control is the apparent absence of budget responsibility, both vertically and horizontally throughout the organization. The monthly financial report is not monitored or used as a management tool. Basically, the operating rule seems to be "spend what it takes to do the job."

The Congressional Information Section assists in the setting of priorities on Congressional work with the Production Manager based upon judgments derived from daily contact with Congressional staff, knowledge of upcoming legislative deadlines and schedules, experience, and tradition. There is no formal procedure for assigning these priorities, and no standard by which one could measure the efficiency of the Congressional Desk in assigning these priorities. It is difficult to evaluate to what extent jobs are reallocated from one production section to another in order to keep production flowing efficiently but also to meet priorities that may change daily. In this regard, the lack of automated data processing support hinders the Congressional Information Section's ability to monitor and control the work flow. This can occur, for example, in the situation where overall priorities are established but not maintained within one production section vis-a-vis another section.

We found little formal documentation of workload data, schedules, etc. Most records are "cuff" records that have evolved since the formation of the section. Thus, the staff of the Congressional Information Section must rely on memories and intuitive judgments more often than may be desirable. In spite of these handicaps, however, this section seems to serve the Congress well as there are few complaints from Congressional staffs. Because of relative uncertainty regarding priorities for incoming Congressional printing, the reactive methods seem to be adequate. However, if methods and procedures were somewhat more formalized in conjunction with an automated reporting or monitoring system, the section might be able to more effectively and efficiently schedule Congressional printing.

Many of those interviewed at Customer Service were of the opinion that the Operations Management Information System (OMIS) would solve many of the scheduling and tracking problems now existing. However, one should note that simply having a computer system will not ensure that all problems will be solved unless there are effective management processes to use the automated information base.

The Departmental Information Section (DIS) exhibited many of the same operating characteristics as the Congressional Information suggests that the ability of the staff to keep reliably informed about the status of innumerable printing orders based upon manual processes is hopeful at best. Indeed, the greatest number of complaints centered on DIS's ability to track printing jackets both externally and internally.

Priorities for the Typography and Design Division are determined by the Scheduling Committee of Plant Planning Division. This section produces several reports and schedules for its own internal management purposes. However, these objectives seem not to include cost control as we were told that expenditures are not strictly controlled.

The Plant Planning Division is also dependent upon manual processes and procedures for efficiently utilizing the productive resources of GPO. We were told the proposed OMIS would greatly improve the Division's ability to plan and schedule accurately. However, the effective use of OMIS and other automated systems depends upon the management methods and processes behind them. For example, Plant Planning does not track how jackets progress through the various sections. This would seem to be a function for this division if its objective were to efficiently plan and schedule printing orders. Therefore, if OMIS reports on the progress of specific requisitions but this feedback is not used as input to decision making, then such information is of little value.

H. Selected Policies and Practices

In accordance with contractual specifications the project staff focused on three particular areas which include: employment policies and staffing levels, analysis of storage and space rental, and equipment acquisition. This section presents our findings in these areas.

1. Employment and Staffing Levels

Employment, staffing levels, and all personnel-related matters are the responsibility of the Office of Personnel Service (OPS). OPS performs traditional duties related to labor-management relations, recruitment, career development, compensation, discipline, classification, occupational health and programs pertaining to EEO, the handicapped, and special training.

Title 44 provides the legal authority under which OPS operates. While neither Title 44 nor Civil Service Commission (CSC) regulations specifically address the question of GPO's obligation to CSC procedures, it has been administratively determined that GPO is under competitive service. Therefore, GPO follows Civil Service guidelines and regulations in the recruitment of all personnel other than those in the apprentice program. Compensation is under the purview of the Public Printer and is determined through negotiation with recognized bargaining units.

OPS is staffed by approximately 110 employees organized into four divisions and three offices. The four divisions deal with the traditional aspects of personnel and have the largest portion of staff (included are employment, career development, training, equal employment, and occupational health). The three offices perform staff functions in the areas of labor-management relations, EEO complaints, and employee programs and community affairs.

a. Manpower Planning

Manpower planning is an important function to all organizations, especially those like GPO whose current work force exceeds 7,700 persons. It is through proper recruitment, training, and assignment of personnel that it is possible to accomplish desired goals and objectives. Manpower planning is especially important to the budget process since direct labor and personnel-related costs are usually the largest single budget line item.

While GPO does not argue the importance of manpower planning we noted an absence of a process whereby manpower requirements are identified and plans developed to satisfy such needs. The lack of a viable work force planning function infers there has been little attempt to translate projected workload and activities into personnel requirements, i.e., numbers of people by skill and level. While the Five-Year Plan (Fiscal Years 1980-1984) provides numbers relating to personnel levels for each of the five years, these personnel levels do not appear to be analytic output based on examination of anticipated workload, productivity standards, and skill requirements.

The lack of comprehensive manpower planning affects GPO in two ways. First, it is difficult for OPS to recruit effectively, in a reasonable time frame, the types of people needed. Second, it is not possible for OPS to adequately analyze needs in order to determine if a proposed personnel request is justified given overall GPO-wide plans. It is therefore difficult to coordinate personnel requests with current staffing levels, attrition rates, and employment ceilings.

We recommend that the Personnel Service be assigned the responsibility for providing GPO with identification and analysis of work force requirements. The objective of this effort should be to solicit personnel needs and requirements from all organizational units and subsequently use this information, after analysis, to support annual budgets and program Personnel Service activities. The use of this approach should enable GPO: to better utilize existing manpower resources, recruit qualified personnel in a reasonable time frame and, as a secondary benefit, emphasize the need to examine both near-term and long-range plans and objectives in terms of personnel impacts.

b. Attrition Monitoring

Closely related to manpower planning is the monitoring of attrition. Monitoring attrition rates is especially important to GPO because of the implementation of technologically advanced composition and printing equipment. The installation of such equipment should require less manual labor than currently on board. Therefore in order to avoid a reduction-in-force it is important GPO monitor attrition, current staffing levels, and progress toward implementation of labor-saving systems.

GPO monitors attrition on an organization-wide basis with some special attention devoted to the production area since it is most heavily impacted by photocomposition implementation. It is now anticipated by OPS that GPO will not encounter major problems with work force levels in the forseeable future. Recent GPO projections indicate by 1984 -- target date for total photocomposition implementation -- approximately 131 craftsmen and letterpress workers will not have journeymen positions; it is anticipated that placement of these personnel will be possible elsewhere in GPO. However, GPO has not performed in-depth study on the impact of technology upon personnel levels both present and future.

Additionally, current projections appear to lack complete analysis. For example, it is not evident GPO has taken into account recent court rulings regarding mandatory retirement. Projections also appear to assume technology will remain constant through 1984, while our technology survey indicates the next five or six years will likely produce productivity increases in the areas of photocomposition, press work, and noncraft areas. Without detailed analysis it is not possible to ascertain the impact which changes in retirements and technology will have on projected attrition rates. The absence of analysis incorporating such factors detracts from the utility of current projections. It is therefore recommended that GPO conduct further study in this area in conjunction with the work force planning function.

c. Recruitment and Promotions

Traditionally, GPO filled noncraft and managerial positions with employees who initially came to GPO via the apprentice program and worked their way up through the organization. This changed somewhat in the early 1970's when the Public Printer actively sought to recruit people from elsewhere in the Federal Government. The hiring of non-GPO personnel for management positions caused some concern among the incumbent staff who believed "outsiders" did not have an adequate understanding or appreciation for GPO operations.

Organizationally GPO can be viewed as having two (not necessarily equal) functions: operations, and administration and management. Each side requires specific expertise to effectively direct and control day-to-day operations, and expeditiously administer GPO and manage its business. Ideally this means GPO should be staffed on the operations side with skilled technicians who are knowledgeable of the printing industry while the business-oriented side employs professionals whose specialties are financial management, systems and procedures, productivity analysis, etc.

Past recruitment and promotion practices have enabled a competent management team to develop in the operations area. This has occurred because skilled craftsmen have been given the opportunity to work their way up through the organization or they have been recruited from other Federal printing operations. The same opportunities have existed on the administrative and management side of GPO, i.e., ambitious craftsmen have been able to leave the craft and assume positions as accountants, planners, procurement specialists, and managers of all types. Thus, operations management is technically oriented and knowledgeable of the printing trade, but in the administration and management area printing expertise is also abundant even though it is not necessarily the main functional skill required. Just as operations benefit from managers skilled in the printing trade, so should administration and management benefit from individuals possessing formalized skills in budget, planning, accounting, etc.

The above comments on GPO recruitment and promotion practices are not meant as criticism of the policy of current management and staff. Rather, it is reported as a possible indication of two things:

- First, the number of managerial and supervisory positions staffed by employees with long service records indicates GPO probably has not recruited outside personnel especially from the private sector. While this means incumbents are knowledgeable of GPO operations they have not had exposure to other printing facilities as would a person recruited outside of GPO, and as such, may be less likely to identify operational inefficiencies and potential improvements.

- Second, past recruitment and promotion practices, as seen through our interviews, indicate many managerial positions are staffed with people who have come up through the ranks without benefit of formal management training. Of course, this is not necessarily wrong since it means managers are well-versed in plant operations. However, it does indicate that most managers acquired their managerial skills from their predecessor or an informal learning process. While predecessors may have been skilled craftsmen, modern managers are required to be aware of and know MBO, zero-based budgeting, productivity analysis, statistical analysis of production and workload trends, long-range planning, etc.

GPO should continue to seek and actively recruit individuals from both the private and the public sectors to fill certain management and other professional positions. This approach will serve to employ personnel with different orientations and perhaps more formal management training. It is also recommended that GPO develop an in-house program aimed at providing managerial training as well as incentives to those motivated to pursue such training on their own time.

d. Employment and Rentention of Young Professionals

The inability of GPO to recruit and retain young professional men and women is, perhaps, also indicative of deficiencies in the recruitment effort. While there are no factual data to support the claim that young professionals are difficult to recruit and retain at GPO, it was an observation reported several times during the course of our study. The reasons for this situation were described as: the inflexible nature of working conditions; _e.g._, working hours, lack of opportunity, conservative management, and physical location.

GPO's inability to recruit and retain young professionals is a perception shared by many managers and supervisors. There are no plans to study this situation to determine if it exists and why, even though OPS shares many of these same perceptions. However, since GPO is in need of management and analytic personnel, it is highly recommended that OPS conduct a study and develop a comprehensive program of management internships.

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2. Storage and Space Rental

The review and approval procedures applicable for machinery and equipment acquisition (GPO Instruction 810.3, "Organization and Functions of the Modernization Committee") are followed for obtaining approval for additional warehouse space. The recipient organization initiates the request for acquisition of space, and the Modernization Committee evaluates the request and prepares a recommendation to the Public Printer. As for other projects, requests for acquisition of space are considered and evaluated as a total project. The request includes a description of the space needs, purposes and programs to be served, with identification of the related cost of equipment, manpower, space now used, etc., and an analysis of the total costs and benefits to be realized.

GPO policy is to acquire warehousing space in the Washington area from GSA or commercial sources, whichever is the most economical for GPO. The method used to acquire space from commercial sources includes four steps:

- Advertise a statement of space requirements to inform prospective offerors of the solicitation and how to obtain copies of the Request for Proposal.
- Furnish prospective offerors a set of specifications and instructions for submission of a proposal.
- Receive offerors' proposals and negotiate lowest price available.
- Make award subject to fair market appraisal and approval by the JCP.

Through continuing contact with GSA, GPO policy is to give informal consideration to any available GSA warehouse space. This provides for consideration of cost comparison between commercially available leased space and any currently available GSA space.

Beginning with FY 1978 it is GSA policy to bill users of GSA-acquired space at the fair annual rental appraisal. This method of assessing standard level user charges results in a charge to the user equivalent to the current commercial rental rate. Consequently, the cost to GPO of acquiring storage space from commercial sources will normally be the same as or less than the cost of obtaining space through GSA.

All GPO rental space requirements outside of the Washington metropolitan area are acquired through GSA. The only facility that is primarily storage space is located in Pueblo, Colorado. This space was obtained from the Defense Department as excess to the Department's requirements. GSA subsequently assumed management of the Pueblo facility.

In summary, GPO policies and practices for acquisition of storage space provide adequately for consideration of competitive values and cost comparisons among suitable available locations meeting minimum GPO requirements. The efficient performance of the GPO mission and programs is a consideration in selecting the most cost effective alternatives. It is recommended that the GPO directive be updated to fully reflect current practices.

3. Equipment Acquisition

The acquisition of equipment by purchase or rental is the staff responsibility of the Materials Management Service. Rent or buy decisions are reached and consideration of compatibility with equipment already in-house takes place during the equipment requirements review and evaluation process. That process is described in the following paragraphs.

GPO Instruction 810.3, Subject: "Organization and Functions of the Government Printing Office Modernization Committee," states the basic procedures for review and approval of equipment requirements. The function of the Modernization Committee is to perform a continuing long-range analysis of machinery and equipment requirements for the GPO and to develop the annual modernization program prior to the beginning of each fiscal year. All equipment procurements for which the purchase price or annual rental exceeds $2,500 are submitted to the Committee for its evaluation and recommendations to the Public Printer. To accomplish the evaluation function, the Committee:

- Prescribes the type and forms for submission for analysis and justification of requirements.
- Establishes subcommittees to review requirements for any areas for which the Committee may not possess the necessary technical expertise.
- Designates functional areas to review the requirements for certain classes or items or property.
- Reviews projects as a total package by considering all related elements of costs and benefits, to include as applicable:
    - cost and estimated life of the item.

- cost of installation and removal of item(s) being replaced.
- associated labor and operating requirements.
- production capacity and rate of utilization.
- maintenance requirements, in-house maintenance capability, training requirements.
- cost recovery period.
- the undepreciated cost of equipment being replaced, its costs of maintenance, and salvage value.
- difference in capacity, utilization, labor and operating costs of new item(s) and item(s) being replaced.
- qualitative and quantitative benefits/savings.

The evaluation process applies for rentals as well as purchases. For items needed on a continuing or long-term basis, the policy is generally to buy the item. The categories of property for which rental is evaluated and generally favored are those for temporary needs and those for which the long-term suitability of the equipment may be in doubt. The classes of property to which this policy applies are generally limited to office machines, copying equipment and ADP equipment. Such types of property are usually leased with option to buy. GSA Schedule Items are available and used for most of these types of procurements.

Consideration of compatibility with equipment already in-house is a key element in preparation of specifications for solicitation of bids for machinery and equipment for the Production Departments. A team consisting of representatives of production and engineering departments are responsible for assuring that the specifications provide for compatibility with other related production equipment and the product or services to the produced.

The evaluation of requests for acquisition of machinery and equipment by purchase or lease examines the total costs and benefits including the increased productivity, reduced costs, etc. Generally interest is not considered as a cost factor in making these evaluations, on the basis that the revolving fund does not pay interest on the Government's investment.

GPO policies and practices for evaluation of requests for acquisition of machinery and equipment through purchase or lease are considered adequate and effective, except for the omission of interest as a cost factor in the computation of net benefits or savings. Provisions for the costs of interest through the use of discount rates to evaluate time-distributed costs and benefits, as provided for by Office of Management and Budget Circular A-94, is an essential ingredient in evaluation of lease-purchase alternatives, and in the computation of savings involving significant investment of capital. Interest as an element of cost is significant and may approximate the cost of depreciation for assets having a useful life of 10 to 12 years.

Most aquisitions of machinery and equipment are justified in terms of savings through increased productivity, reduced operating, maintenance and labor costs, etc. To assure that the projected savings are realistic and that they are achieved, it is suggested that procedures be adopted to compare actual savings in manpower and other costs for the first year of the acquisition to the estimated savings on which the approvals were based.

IV. REVIEW AND ASSESSMENT OF MANAGEMENT SYSTEMS AND PROCEDURES

In order to provide a complete evaluation of GPO it is necessary to review the management systems and procedures currently operational. The project staff assessed the effectiveness of planning, the MBO program, productivity standards, budgeting and financial management, operational and control information systems, and information support.

A. Planning

The Assistant Public Printer for Planning is responsible for initiating and coordinating the development of GPO's Five-Year Plan. This requires the Planning Staff to perform research and analysis with respect to new technologies, requirements of customer agencies, suppliers, and in-house resources such as equipment, personnel, etc. While this effort is reflected in numerous reports, the most visible is the Environmental Outlook which is prepared annually.

The Five-Year Plan is defined as an "operating plan for the five years following the fiscal year of the planned Annual Operating Plan." The current Five-Year Plan is composed of three basic sections: The first section provides an Executive Summary addressing each component of the overall plan in terms of potential problems, solutions, and contingencies. The second part provides statements of missions, goals, and objectives pertaining to each organizational unit included in the plan as an identifiable unit. The third section contains quantitative data depicting anticipated workload, personnel, equipment, facilities, expense budget, and ADP systems.

1. The Planning Process

The Planning Staff initiates the planning process with the preparation of the plan call. This document provides management with instructions as to what information is required by the planning process in developing the Five-Year Plan. Additionally the plan call and other documentation such as the Environmental Outlook provide management with planning assumptions; *e.g.*, anticipated workload increases, cost of material, and research into areas such as customer demand, technology, and personnel.

Once the plan call has been approved by the Assistant Public Printer for Planning, it is transmitted to the Deputy Public Printer (Operations) and the Assistant Public Printers. Upon receipt, each level of the organization initiates its internal planning process by refining statements of mission, goals, and objectives to accurately subscribe to those of higher organization levels and reflect what is to be accomplished. These statements are reviewed by the next level of management, up to the Deputy or Assistant Public Printers, to ensure consistency. When the mission, goals, and objectives have been approved, the quantitative data relating to workload, resources, and expenses are developed.

Each component of the Five-Year Plan is subjected to a series of reviews and approvals as it is passed from the division level on up to the Deputy and Assistant Public Printers, and finally the Public Printer. Once approved, the Five-Year Plan is distributed throughout the organization to be implemented by management.

2. Evaluation of the Planning Process and the Five-Year Plan

The analysis of the planning process and the Five-Year Plan itself was performed by the project staff on the basis of management interviews and review of the following documents:

- Five-Year Plan (1980-1984)
- Planning Guide
- Public Printer's Notebook
- Five-Year Plan Call (1980-1984)

The thrust of the review and analysis was threefold: the evaluation of planning as a management process, an assessment of the Five-Year Plan itself in terms of management's perception as to what it is, and the project staff's assessment of its viability as a management tool.

a. The Planning Process

The overall structure of the GPO planning process involves all levels of management, thereby preventing a plan from being developed without benefit of operational input. However, while mechanisms exist for promoting the involvement of line managers, there is an apparent absence of policy and strategic considerations.

The planning process does not provide for establishing goals and objectives stated in terms of outputs or milestones by which performance may be measured and evaluated. For example, the objective, "Costs per unit of workload expressed in dollars will decline," does not provide an achievement target such as "a decline of 10 percent given current performance." As such, management knows only that it needs to reduce unit costs; there is no indication as to the priority nor the magnitude of this objective.

Perhaps the lack of policy and strategic considerations is attributable to the absence of the JCP staff in the planning process. Currently the planning process does not provide for formal input from the JCP staff. (This is evidenced by the absence of JCP staff in the documented process workflow, and distribution of planning documents.) Given the JCP staff's perception of its role as that similar to a corporate board of directors, i.e., oversight and direction, its absence in the planning process means policy and strategic considerations are omitted. The modification of the planning process to include input from the JCP staff would mean that these considerations as well as general milestones would originate with those responsible for overall direction and management policy.

Another area in which the planning process could be improved is in the forecasting of future workload. Currently the Planning Staff employs two approaches to determining anticipated workload. The first method is to project customer demand as a function of Gross National Product (GNP). The second approach is to meet with customer agencies and talk with them about their future requirements.

The projection of customer demand as a function of GNP is based on the premise that there is a direct proportional relationship between GNP and GPO's gross revenue. While there may be such a relationship, its applicability to the Five-Year Plan is questionable. This is because the anticipated customer demand derived from this approach is, at best, an estimate of gross revenue. For planning purposes it is better to develop data relating to number of orders, types of orders, etc., since these factors directly impact workload and operations.

The second approach used to project customer demand, customer agency contact, is more time consuming and does not lend itself to mathematical modeling as does GNP forecasting. Contact with customer agencies does enable the Planning Staff to more precisely define not only anticipated workload but also the types of workload, i.e., in-house, procurement, machine readable copy, etc. However, the Planning Staff devotes a minimal amount of time to surveying customer agencies and instead appears to rely on GNP projections.

The limited amount of input solicited from customer agencies is perhaps the greatest deficiency in the planning process. Currently, GPO representatives devote only about one day per agency in order to ascertain future requirements. This level of involvement, expressed as a criticism of GPO by customer agencies, prevents the Planning Staff from developing a detailed understanding of an agency's requirements and approach to improving its printing programs. While the Planning Staff is able to project GPO gross revenue as a function of GNP, they currently appear not ready to work with customer agencies to understand agency requirements and incorporate them in the Five-Year Plan.

b. The Five-Year Plan

The current Five-Year Plan provides quantitative data regarding personnel, equipment, workload, and expense budgets for each of the five years included in the plan. These data are displayed so that it is possible to determine, for a given year, levels of personnel, equipment expenditures, etc. While the Five-Year Plan provides an indication of workload, etc., it does not provide any kind of plan by which objectives will be achieved. That is to say, the Five-Year Plan is not a plan, it is a statement of objectives to be accomplished and a forecast of personnel, resources, and expenses. Absent are timetables illustrating milestones and resources needed to accomplish desired objectives. Also missing are the criteria by which to measure achievements.

For the Five-Year Plan to become a management tool it needs to be reformatted to include the previously mentioned components. (We understand some changes have been incorporated in the 1981-1985 Plan.) Until the Five-Year Plan provides timetables, rates of resource utilization, responsibility assignments, and measurement criteria, we feel it will not be a viable tool by which managers can implement improvements and have their performance evaluated.

D. MBO Techniques

The Management by Objectives process was started in 1974 and generally has been concerned with "innovative MBOs." These objectives dealt with the procurement process, the installation of ADP equipment, the development of ADP systems, etc. The objectives have been developed at the Department/Service level, and there are 107 objectives for FY 1979. GPO is now in the process of attempting to take the objectives to the Section level (approximately 240-250 units) and to address operational objectives. It is estimated that 350-400 objectives will result.

MBO is meant to be a continuously operative resource allocation tool, which periodically is used to produce budgetary decisions. MBO allows for linkages to other budgeting procedures and can generate primary budget options by managers deep within an organization who best know production needs in terms of manpower or dollars. Then suggestions can be reviewed at higher managerial levels.

MBO, moreover, can have a dual thrust in planning and control. As a monitoring and control mechanism, MBO has much in common with the control side of budgeting. But in its flexibility and its planning emphasis, MBO has the potential to be far more than a mechanism for measuring the efficiency of work or questioning the alternate courses of action while developing a budget.

Despite the potential of MBO, in GPO it is not an effective management tool as presently employed. There seems to be little motivation to using MBO as a method for measuring performance. The reasons for this are several:

- The planning process, MBO, and budget are not integrated. The MBO program should be a subset of the five-year program and consider the current and next fiscal years.
- The MBO program should be a direct result of the five-year program designed so that, in the current year, there is

adherence to the Five-Year Plan in terms of meeting the short-range goals toward achievement of the long-range goals.

- The MBO program is not used for budget development which should be one of its main purposes. Since it is not used as a basis for developing budgets, it, of course, is not used for financial monitoring of cost centers.

- The objectives, particularly as stated in the Five-Year Plan, are neither precise nor measurable. Objectives such as "insure a fair and realistic pay system for all employees" do not give proper direction to efforts nor state realistic targets and are only subject to value judgment. The objective - "Reduce cost per unit of workload expressed in constant dollars" has no stated time frame for accomplishment and thus precludes definitive measurement.

- Except in certain instances, we did not find evidence that the appropriate units receive necessary feedback or are held accountable for their objectives. (Printing Procurement Department does hold quarterly review sessions.)

- The MBO should be the basis of a management information system, yet there does not seem to be any attempt to link MBO to OMIS.

- The number of objectives contemplated (350-400) will make the MBO program a mechanical reporting system with little feedback and little possibility for considering alternative courses of action for resource allocation.

Possibly, the most serious concern that GPO should have about the MBO program is that it does not become simply a paperwork requirement. It is our considered judgment that MBO programs that are not tied to measurable performance and budgets do in fact become just that.

C. Productivity

The production-oriented nature of the GPO's work requires that performance and output of employees be measured to ensure human resources are being utilized effectively. The project staff was impressed at the large amounts of productivity data collected by various GPO units. For example, on a daily basis, the Superintendent of Documents receives a status report on 194 separate work points within the group in terms of workload, productivity and manpower. Other areas collect similar amounts of data.

We noted, however, that while many data are collected, little useable management information is taken from the data. The project team also noted that most managers indicated that out of these large numbers of data items, they used only a small core group of performance/productivity indicators. It was also difficult to ascertain to what uses the data are applied because these data do not appear to be tied into planning, budgeting or personnel evaluation activities. We suggest that prior to the establishment of any set of comprehensive productivity standards or measures, GPO first establish a basic performance reporting system that utilizes the core group of indicators defined by each manager as essential to monitoring productivity. As a good historical data base is developed, the information generated can be used to develop more detailed productivity standards.

D. Overview of Financial Management

The Congress, in establishing the GPO, set out specific requirements for the Public Printer to account for and report on costs incurred as well as to provide estimates of the costs (funds) required to operate GPO in each succeeding year. In effect, the Congress mandated the requirement to provide effective financial management within GPO.

The accomplishment of this objective required the establishment of a financial management system and the development of parameters for that system through a financial management plan. GPO's financial management plan was thus developed to provide the basis for effective financial management including the assignment of specific responsibility for the control and evaluation of costs. This section will assess the effectiveness with which GPO has implemented these two elements.

For purposes of this discussion, financial management can be considered as the implementation and integration of three processes:

- Budget Formulation (the financial plan).
- Budget Execution (implementing the plan).
- Budget Analysis (measuring results against plan).

1. Budget Formulation

The budget formulation process is initiated with the promulgation of the "budget call" which provides specific instructions to some 200 cost center managers for the submission of funding requirements. The "call" provides essential data for workload analysis, current levels of spending and authorized manpower. Utilizing these data, each cost center manager develops the budget in three segments:

- Making a midyear adjustment, if necessary, in the current year budget based on performance to date.
- Revising the initial budget year estimates, made in the preceding calendar year.
- Formulating the initial budget for the year succeeding the budget year.

Beginning in fiscal years 1978 and 1979, all organizational units were required to submit budget estimates on both a zero base and object class basis. Other guidelines for the preparation of the budget included:

- A personnel positions policy which generally restricts requests for additional positions.
- A requirement to relate requested funds to manpower requirements based on work measurement standards.
- Inflation factors for consumable materials and supplies as well as for blank paper.

The budget requirements developed by cost center managers are consolidated and submitted to the Budget Branch for initiation of the review process, which ends with submission of the request to OMB and to Congress for approval.

The following comments are pertinent concerning the formulation process:

- Workload - To effectively accomplish its ojectives GPO must have more centralized direction and evaluation of current and projected workload. Currently, workload indicators are tracked by individual cost center managers and play a role in the formulation of manpower and dollar estimates. The indicators used for this purpose are those which are tracked in the monthly workload analysis report and are historical moving averages. However, there is no real motivation for a manager to accurately forecast a declining workload or improved productivity in developing manpower requirements. Thus, it is up to the Budget and Management Division to analyze and assess workload projections independently of any central guidance other than the historical statistics reflected in the same workload report. We would suggest the centralized planning process should be expanded to include the development of Agency-wide workload projection.
- Zero Base Budgeting - Several start-up difficulties were encountered by GPO, primarily resulting from an understandable lack of experience with the process:

  - Emphasis was not placed on analysis of alternative modes of operation.
  - Decision packages did not include a description of other packages affected by the level of funding proposed by that particular level.

- The Five-Year Plan should be more directly integrated with the budget process. This plan is, in theory, a reflection of top management's desires and objectives for the agency. Therefore, it should provide the starting point for each year's budget with deviations adequately explained, approved and integrated in the plan update.

2. Budget Execution and Analysis

The process of executing the approved budget is monitored and controlled primarily through the Expense Budget Report. This report is produced and distributed by the Budget and Management Division and primarily reflects controllable expenditures (expenses) for each cost code concerned. The following comments are pertinent to this document:

- The report is produced independently of the various product costing reports. These two reporting systems should be more effectively integrated to provide managers with data on performance against plan (budget) for all relevant costs, both "controllable" and "uncontrollable" costs.
- The report does not reflect planned and/or actual levels of production revenues so that variances can be effectively analyzed. For example, production managers cannot readily relate a budget overrun to inefficiency or to production requirements in excess of plan.
- The report is in many cases not received or received very late by cost center managers. This is attributable generally to the procedure of distributing the reports to budget liaison personnel who may or may not further distribute them to cost centers below the level of their respective departments.

- All cost center managers should become more involved in the process by the timely receipt of a budget report which reflects planned and actual performance and for which each is held strictly accountable.

Another part of the execution process is that of product costing whereby costs for products are monitored, assigned to products and billed to customers for reimbursement. This process operates in a fashion somewhat independent of the controllable expense budget process discussed above. Here the emphasis is on cost recovery and the consequent allocation of all costs to revenue-producing cost centers and products. The primary control tool for this process is the Statement of Revenue and Expense with the focus on costs of services and value of services (revenue) which link applied and actual costs through the mechanism of the all-inclusive rate.

The reports produced in this process are characterized by:

- Limited usefulness to management for control purposes.
- Absence of cost standards, targets, budgets for comparison and evaluation.
- Limitations imposed by the inefficiencies inherent in the accounting system in that the reports must be manually prepared from worksheets or journal entries.
- Absence of inquiry or exception reporting capability.
- Lack of formal procedural and interpretational documentation.

The problems observed in the operation of these systems and procedures are indicative of those found in systems that have been in use for a long period without major modification or redesign. That is, the size and scope of the systems employed are excessively labor intensive, inefficient and slow to respond to requests. This includes the systems for:

- Establishing or adjusting cost rates.
- Setting prices.
- Billing clients.
- Distributing and reporting costs.

Working within these constraints it is commendable that the financial and budget staff has generally succeeded in the timely adjustment and control of key variables such as those for the inclusive rate. However because of the "system-induced" workload, other important areas such as variances analysis, cost control and accountability have been slighted.

E. Operations Information and Control Systems

Because GPO is a production-oriented organization as well as a service-oriented one, the project team examined the current methods whereby major operations are tracked. We focused on in-plant production, commercial procurement of printing and distribution of documents.

Within these three broad groups were a number of systems and functions to be considered. For example, to support production sufficient raw materials must be kept on hand, necessitating good material management practices. In addition, plant capacity must be monitored in order to adequately schedule jobs and materials needed to be ordered for those jobs.

1. Production Scheduling and Control

A key to GPO's operation lies in the scheduling of in-plant printing and binding work for Congress and agency users. As mentioned earlier in this report, unpredictable Congressional demands, in terms of volume and time constraints, make scheduling and utilization of plant capacity difficult. Current practices are exclusively manual and rely, to a great extent, on the background and expertise of the person scheduling the work. Production scheduling is done in the Plant Planning Division of the Customer Service Department. The Scheduling Committee, composed of a chairman, four production planners and one Production Manager representative, reviews all black jackets and assigns them to the planners.

If the job involves rush, confidential or hot metal work, a representative of the Production Department will schedule the work (*i.e.*, due dates), and forward it to the planners who will plan (*i.e.*, assign production methods on the job). Certain rush jobs and overnight Congressional work, *e.g.*, reports, bills and *Congressional Record*, are sent to the plant. In these cases, the Congressional Information Section will assign priorities to the work rather than plan and schedule it.

Once the job has been planned and scheduled, it is sent to the Estimating and Jacket Preparation Section where the jacket is written up and then to the Intermediate Scheduling Section where, working back from the due date, planners assign specific due dates for each part of the production process. Finally, the work goes into the plant.

Tracking of production is the responsibility of the Work Progress Control Section of the Production Manager's Office. This process, like scheduling, is completely manual. A great deal of communication is by phone.

2. Operations Management Information System (OMIS)

This major information processing effort is being designed to provide comprehensive on-line data on jobs in progress for both the commercially procured printing and in-plant work. Exhibit 1-4, following this page, presents a general outline of what GPO conceptualizes OMIS will be upon completion. However, at this point, GPO is initating a pilot system which will monitor total workload and provide full management information at all levels of production supervision. Work levels will use it as a "scratch pad" which will consolidate (rather than eliminate) existing paper forms.

Basic modules for OMIS include order entry, distribution control, production planning, and job tracking. The system will replicate the current practice of assigning equipment (minimum capacity) for Congressional work and be designed to provide more lead time to assess delinquencies and setting new production schedules. An optional system will track piecework for the longer-term jobs and the system will incorporate a floor locator system and a program to assign different elevators to different production groups.

OMIS will not be operated on a "pool" basis whereby it can plot the impact of one job on all others, job queues will be set by production area. Rather, it is being set up as a large sophisticated

EXHIBIT 1-4

OPERATIONS MANAGEMENT INFORMATION SYSTEM

THE PROPOSED SYSTEM

An automated information processing system will be installed that utilizes the latest data base management (DBM) software and powerful mini-computer hardware to support on-line inputs, retrievals, and updates to information generated by the Operations department users. Using DBM processing and information management facilities, data that are entered by one user will be available for reference by all users under controlled access and/or update procedures. The data entered by users will also be referenced by the system to automatically generate other forms of the data that are currently created manually. Product description terminology will generate resource requirements for production or procurement of agency publications. The critical production paths or procurement milestones will be determined through user transactions with the data base. Progress control information input and update procedures will be provided to the user based solely on the production or procurement processes used. All user transactions will be processed in a real-time environment that supports immediate access to the data base by all users.

The Customer Service Department will use the automated system to support or perform the following functions:

- Input all necessary identification information on all new agency work.
- Input product attributes that will be used to determine production or procurement requirements.
- Build production specifications reference files.
- Develop production plans.
- Allocate and schedule production resources.
- Calculate printing costs for in-house work.
- Input all distribution information for delivery of agency work.
- Customer liaison.

The Printing Procurement Department will use the automated system to support or perform the following functions:

- Build Printing Procurement specification reference files.
- Develop Printing Procurement specifications.
- Qualify and schedule Printing Procurement resources.
- Certify bidders and award contracts for printing.
- Monitor contract schedules and compliance to contract terms.
- Build contractor performance reference files.
- Calculate printing costs for commercially procured work.
- Qualify and schedule Printing Procurement resources.
- Certify bidders and award contracts for printing.
- Monitor contract schedules and compliance to contract terms.
- Build contractor performance reference files.
- Calculate printing costs for commercially procured work.

The Production Department will use the automated system to support or perform the following functions:

- Control workflow in all processes.
- Generate control records.
- Establish production priorities.
- Generate labels for distribution.
- Manage production floor space and storage facilities.

- Receive the movement of production materials in related processes or from the GPO to agency-prescribed destinations.

Quality Control and Technical Department - The Paper Division will use the automated system to support or perform the following functions:

- Develop equipment/materials performance file to determine quality problem areas that cause lost production time, materials waste, or poor quality output.
- Develop a quality assurance system with the Printing Procurement Department to determine conformance with specifications as they relate to the quality of the final product.
- Develop an in-house quality assurance program.

record-keeping system which will support a management-by-exception approach. Also, at this point, data base management is not being built into the pilot test or long-range designs. OMIS pilot test is scheduled to run two or three months, and the entire system is hoped to be implemented by 1981.

3. Distribution of Documents

Contained within this group of systems are most of the operations of the Superintendent of Documents that involve the movement of publications including:

- Order Processing
- Bulk Warehousing
- Retail Warehousing
- Depository Library Distribution
- Statutory Stock Distribution

In the first two areas, SU/DOC has developed versatile automated systems to handle order processing, and bulk shipment receipt and inventory functions, while the latter three areas rely almost exclusively on manual methods for tracking workload quantity and progress.

The first major system is the Retail Order Processing System (ROPS) which handles all order entry information, prints stock picking instructions and distribution information for mail orders requesting Government publications. A second system, Publications Receipt and Control System (PRCS), processes data related to bulk stock receipt, location and inventory functions. Both systems offer faster and more accurate processing of work and provide better audit trails for tracking work progress, answering complaints, and filling back orders identifying stock-outs. They are not used to prepare workload data for the daily and weekly reports. A major drawback is the inability of either system to deal with "retail" warehouse inventory. Basically, a one or two carton supply of a title is stored on the retail side of the warehouse for filling orders of less than a carton. This inventory is largely uncounted and is replenished on a visual inspection basis. Information on the total number of books in retail would be useful to prevent stock-outs (and back order) situations.

The remainder of the operation information and control systems within SU/DOC are manually maintained. In the depository library distribution program, over 1,300 libraries must be served. Each has selected categories under which they will receive documents. Therefore, they must manually match each day's categories of documents to be shipped with the individual libraries. Currently, a system of books maintained by category is used to perform this function. Each book is geared to a specific category and lists the libraries selecting that category. Document pickers work from these booklets to assemble each libraries daily shipment. The error rate is fairly low as reflected by the number of library complaints.

In the other major distibution operation, statutory stock, each worker prepares a daily list of work to be completed, and the basic units are numbers of line items and number of books.

Since there are fewer time deadlines imposed on this operation, no deliquency data are maintained; however, backlog (new orders vs. completed orders) is measured.

4. General Observations

The need for effective operational information systems is clear. Foremen and supervisors would be unable to effectively utilize their resources without it, waste and poor product quality could become by-products, and cost would, of course, increase. Information is also needed to develop a base of historical data from which patterns of service, workload levels and such may be drawn and used for future planning.

Although many data items are collected by GPO, operating decisions are generally made by placing reliance on the experience of long-term employees. We noted that tradition generally dictates what information will be collected and how it will be used. In addition, each operating group tends to individualize its operational information and does not attempt to effectively integrate its needs with other groups. There has been a "bottom-up" approach (collect what exists) to information when the requirements clearly indicate a "top-down" approach (collect what is required) is necessary. The project team felt that GPO should, as soon as possible, undertake a comprehensive effort to:

- Review, in detail, current information systems, both manual and automated to identify unmet needs, redundancies, commonalities among data elements and existing system dysfunctions.
- Develop a comprehensive conceptual design for a unified operations information and control system.

The current OMIS effort will, if pursued realistically, provide a basis for conceptual design development.

F. Information Support and Data Processing Plans

The Government Printing Office utilizes a wide variety of computer hardware and automated systems in its production and information activities. To provide controls for computer services, GPO has established two entities to guide policy and operations.

The Automated Data Services Steering Committee (hereinafter called Steering Committee) is chaired by the Public Printer. Its other members include the Deputy/Assistant Public Printers. The Steering Committee is responsible for consolidating and evaluating all user requests for computer services, as well as approving specific projects. Each request, when presented to the Steering Committee, is reviewed and a priority assigned to it. The projects are reviewed annually as a whole, and a formal list of approved projects is then submitted to the Office of Data Systems (ODS). ODS, which provides selected support staff to the Steering Committee in addition to its other duties, uses the list of projects to determine its manpower requirements, hardware needs and work schedule for the coming year.

ODS provides a full range of data processing services, including:

- Studies to determine the need for automated services.
- Design, development and procurement of computer systems and programs.

Users work closely with ODS staff in developing the requirements for their automated applications. Once a user defines a basic system requirement, an ODS staff analyst assists the user in defining the level of effort required to implement the application. Once defined, the user submits a formal request to the Steering Committee for review and approval.

We observed that the use of ADP technology at the Government Printing Office is both widespread and generally effective. Certain operations within GPO, such as Superintendent of Documents Office, have been active in the use of the computer as a management tool, as evidenced by the number and sophisticated level of the applications. Because of such success in SU/DOC applications, other areas of GPO are increasing their demand upon the Office of Data Systems, chiefly for on-line applications.

The number of applications which share common information is also increasing. This trend in data base/data communications oriented systems will have a significant impact on the future of the Office of Data Systems. It will require additional hardware to support the increased number of terminals and applications which will be used in the GPO. Many of these applications will require real-time processing, and by their nature place a high demand on resources such as CPU cycles, direct access storage devices and telecommunications equipment.

The increased demand for new applications, the fact that the new applications will be more complex than those previously implemented, and the increase in program maintenance will have an impact on the staffing of the Systems Analysis and Programming Division. We feel that the ODS will have to increase the number and productivity of analyst and programming personnel. Based on the current application plans, the shortage of personnel will be most notable in the analyst category. These plans also indicate a requirement to increase the need for data base/data communication systems in the near future. The formation of these systems will require that analysts and programmers be well-trained in the techniques that will be used to implement the new applications. Therefore, we would recommend that staff training programs be increased to the maximum practical.

At present, there are detailed automation plans for each department within GPO. In addition, there is a detailed estimate of manpower required to support the applications approved by the Steering Committee. However, there is not a detailed data processing plan which integrates the individual automation plans into a unified GPO plan. We feel that this level of planning is necessary to identify:

- The interface between systems.
- The commonality of data elements between systems.
- The redundancies of data collection between systems.

By identifying redundancies in the individual system plans, action may be taken to coordinate systems development activities so that information is gathered and distributed without duplication of effort or inconsistencies in the data. For example, OMIS will collect production information by work station, by jacket. The same information can be used by financial management in its job costing and efficiency reporting. These multiple uses of common data should be identified and planned for. Therefore, we recommend that a GPO-wide data automation plan be developed. This plan should be coordinated with GPO's Five-Year Plan.

The need also exists to develop a data base implementation plan. As the number of applications grow which require the same operating information, the need for a data base management facility will become more pressing. The advantage of a data base approach is that redundant data will be eliminated and there will be a single source to update operating information, therefore providing better control and more consistent results from the operating data. In order to effectively plan for a data base management system, a Data Base Administrator should be appointed. This individual and staff would be responsible for developing guidelines and criteria for implementation of a data management facility. Moreover, this function should be closely coordinated with the five-year automation planning process.

V. SUMMARY OF ORGANIZATIONAL AND MANAGEMENT OBSERVATIONS AND RECOMMENDATIONS

Our assessment of the GPO organizational structure and management has resulted in several recommendations aimed at improving current procedures, eliminating dysfunctions, duplication, and inefficiencies, and developing needed systems -- both manual and automated. The purpose of this section is to present these recommendations in terms of the observations precipitating them and their anticipated benefits.

A. Assessment of Organizational Structure and Management

1. The Deputy Public Printer

Currently the Deputy Public Printer has a dual responsibility -- he manages Operations and contributes to the overall supervision of GPO. This arrangement means the Public Printer maintains the bulk of responsibility for day-to-day operations and external liaison with the JCP, industry groups, etc., because of the significant time the Deputy Public Printer must devote to Operations.

- Recommendation: GPO should consider establishing an Assistant Public Printer for Operations, thereby enabling the Deputy Public Printer to become more actively involved with the overall management of GPO.
- Anticipated Benefits: Releasing the Deputy Public Printer from the management of Operations will allow the Public Printer to focus on external considerations (e.g., policy, industry liaison, etc.) wnile the Deputy Public Printer concentrates on day-to-day operations and administration.

2. The Procurement Function

The procurement function is currently divided into two activities:

printing procurement, and the procurement of supplies and material. Each activity is the responsibility of a different organizational unit. This structure is contrary to generally accepted practices in which major functions and activities are aligned under one responsibility center or unit.

- Recommendation: There should be a study to determine the feasibility of merging the Printing Procurement Department and the Materials Management Service. The purpose of this project would be to determine if the consolidation of procurement activities would promote economies of scale, increased planning and control, and improved utilization of manpower.

3. Customer Service Orientation

Most customer agencies we contacted commented indicated that GPO customer service procedures were needlessly rigid and that GPO does not actively solicit agency printing requirements or seek to improve procedures.

- Recommendation: Customer service procedures should be modified so that, when it is warranted, users can contact directly the technical specialist responsible for their job. Additionally, GPO should develop in-house capabilities that will promote the identification of user requirements, and continually review internal procedures and respond to customer complaints regarding GPO's modus operandi.

- Anticipated Benefits: Providing the opportunity for customer agencies to have direct contact with technical specialists, when required, will enable users and GPO to more quickly resolve problems without the filtering effect of the Customer Service Department. The increased ability to ascertain the requirements of customer agencies will serve to increase GPO's knowledge of the user's environment and provide an opportunity to gather data regarding GPO projected workload. The review of internal procedures and resolution of customer complaints is one way to improve customer service and operating efficiencies.

B. Superintendent of Documents

1. Operation of Bookstores

GPO bookstores operate somewhat autonomously, each manager having a large degree of discretion in title selection, inventory levels, etc. There is little control exercised over the inventory mix, destruction of documents, or operating expenses versus sales revenue.

- Recommendation: Each bookstore should be put on a self-sustaining basis by instituting mechanisms in which books are "sold" to each store, e.g. at a percentage of retail value. Thus, each bookstore would be provided with an operating margin from which all costs are paid.
- Anticipated Benefits: The restructuring of bookstores to resemble retail operations should provide a better basis upon which to measure performance. Additionally, a retail orientation will give impetus for market analysis and prudent selection of titles.

2. Inventory Management

The dollar value of inventory in SU/DOC warehouses is not known nor is it known what it costs to carry the present inventory. Additionally, it is estimated that while there are 5,000-6,000 back orders, there is also an 18-month inventory stock. The lack of cost and volume data and the apparent excessive inventory stocks indicate that the inventory management function suffers from a lack of management information.

- Recommendation: SU/DOC should develop a system whereby operating costs associated with inventory are collected, updated, and available for management review. Additionally, it is recommended that inventory levels and back orders be examined in order to determine if either could be reduced to determine if either could be reduced to lower the inventory investment without impairing service delivery standards.

- __Anticipated Benefits__: The development of cost and inventory data will provide management with the means by which to evaluate carrying costs and stock levels. The ability to conduct such analysis should serve to reduce inventory costs while maintaining acceptable service standards.

C. Printing Procurement and Production

1. Organizational Consolidation

The Commercial Printing Specifications Division (CPSD) and the Central Office Printing Procurement Division (COPPD) of the Printing Procurement Division perform activities associated with the procurement, yet are organizationally separate. A review of this structure indicates some activities are performed in a duplicative manner.

- __Recommendation__: The Printing Procurement Department should initiate a study of COPPD and CPSD in order to determine the feasibility of their consolidation.
- __Anticipated Benefits__: The purpose of the proposed study is to develop information that will enable departmental management to decide if consolidation is feasible and warranted. It is believed the combining of COPPD and CSPD would promote better utilization of resources, reduce managerial overhead, and facilitate workflow.

2. Field Printing Operations

The Field Printing Division (FPD) is located in the Printing Procurement Department yet bears little or no relationship to the procurement function. Additionally, there are currently no evaluation methodology or criteria for the review of field printing plants in terms of their efficiency and requirement for operation.

- Recommendation: GPO needs to examine the organizational location of FPD in order to determine if it should be placed in Operations. Furthermore, GPO and JCP staff should work together in developing a methodology to evaluate field printing operations so as to ascertain their efficiency and effectiveness in fulfilling customer agency requirements.

- Anticipated Benefits: The assignment of FPD to Operations could promote more effective management planning and control since FPD would be in a production-oriented responsibility center rather than procurement. The development and use of evaluation criteria for field printing operation would serve to identify operational inefficiencies and areas in which service levels need to be increased or decreased.

3. Requirement for Region 3 RPPO AND DSO

Within the Washington, D. C. metropolitan area, GPO maintains a regional procurement office (Region 3 RPPO) and the Departmental Service Office (DSO) in addition to the main GPO facilities. Both DSO and the Region 3 RPPO provide services obtainable at the main GPO plant yet neither operation is effectively integrated with Central Office production or printing procurement.

- Recommendation: A comprehensive review should be undertaken in order to determine how Region 3 RPPO and DSO might best be utilized in serving customer agencies and complementing Central Office operations.

4. Production Scheduling

The scheduling of production is an activity located in the Plant Planning Division of the Customer Service Department rather than the Production Division. This results in a situation in which the Production Manager must meet a schedule over which he has no direct control.

- Recommendation: A realignment of procedures and responsibilities needs to be instituted in order for the Production Division to have more control over the schedule for which it is responsible.

- Anticipated Benefits: Greater control of scheduling will permit the Production Division to more effectively utilize manpower and equipment.

D. Personnel Policies and Practices

1. Manpower Planning

There is currently an absence of a process whereby manpower requirements are clearly identified and plans developed to satisfy such needs. This infers that projected workload and activities have not been translated into personnel requirements.

- Recommendation: The Office of Personnel Service should be charged with the responsibility for providing GPO with identification and analysis of work force requirements. This effort should employ the solicitation of personnel needs for all line and staff units.

- Anticipated Benefits: An effective manpower planning function should promote better utilization of existing personnel, recruit qualified personnel in a reasonable time frame, and encourage the examination of near-term and long-range plans and objectives.

2. Attrition Monitoring

GPO monitors attrition primarily on an organization-wide basis. However, current projections lack the benefit of analysis with respect to, for example, recent developments in technology and mandatory retirements.

- Recommendation: Additional analysis of attrition and contributing factors is warranted if GPO expects to avoid a reduction-in-force.

- Anticipated Benefits: Comprehensive analysis of attrition in conjunction with a viable workforce planning function will enable GPO to maximize existing manpower resources and avoid, or at least minimize, the impact of personnel reductions.

3. Recruitment and Promotions

Traditionally GPO has not actively recruited personnel from the private sector or other Government agencies to fill management and business-oriented positions. Instead there has been a reliance on the ability to fill managerial and noncraft positions from internal sources. This has caused the management and administrative side of GPO to be, perhaps, overstaffed with craft-oriented personnel.

- Recommendation: GPO should seek to actively recruit individuals from the private sector to fill certain management and other professional positions. Additionally, a program should be developed aimed at providing managerial training as well as incentives to those motivated to pursue such training on their own time.
- Anticipated Benefits: The employment of personnel from other organizations can serve to bring about a fresh perspective to both operations and management. Furthermore, increasing the management training of in-house personnel and hiring persons with management expertise will provide GPO with a greater inventory of talent with which to perform analytic duties.

4. Employment and Retention of Young Professionals

It was noted several times during our interviews that GPO has had difficulty in recruiting young professionals and retaining those that have been hired.

- Recommendation: Since there are currently no plans to study this situation, it is our recommendation that a project be initiated to determine if the prevailing perceptions are accurate and the reasons why.

E. Management Systems and Procedures

1. Planning

The GPO planning process does not currently incorporate the establishment of definitive goals and policies relating to where GPO should be in the context of the five-year period. Additionally, the absence of a definitive plan complete with milestones, targets, etc., precludes the Five-Year Plan from being employed as an action-oriented schedule.

- Recommendation: The GPO planning process requires a complete reorientation in order for it to become an operational management tool. This means the current document must include timetables, rates of resource utilization, resonsibility assignments, and measurement criteria, and links to the budget process.

- Anticipated Benefits: Once the Five-Year Plan becomes a plan, it will serve as a tool by which management can evaluate progress toward agreed-upon goals and objectives. A refined planning document will also facilitate the development of annual budgets and operating plans.

2. MBO and Productivity

Both the MBO and productivity program result in considerable amounts of man-hours expended and data collected. However, as currently operating, the productivity reports are seldom used by management while adherence to MBO is the exception rather than the rule.

- Recommendation: MBO and productivity must be integrated with each other and other processes, e.g., budget, planning, etc. Also, the 350-400 contemplated objectives for next year should be substantially reduced in order to prevent the process from becoming a mechanical reporting system as opposed to a management tool.

- Anticipated Benefits: The benefits of a well-designed MBO and productivity program are proven and documented throughout Government and industry. Specifically in GPO, the redesign of MBO and productivity reporting will provide a means by which management may evaluate performance and progress as well as facilitate budgeting and short-term planning.

3. Operations Information and Control Systems

While the need for operational information is clear, each operating unit tends to individualized its information requirements without attempting to effectively integrate its needs with other groups.

- Recommendation: There needs to be a comprehensive "top-down" requirements analysis performed in order to inventory organization-wide information requirements, thereby promoting the development of integrated systems.
- Anticipated Benefits: A comprehensive requirements analysis will identify management information needs and commonalities among data elements and systems as well as provide the basis for a unified operational information system.

4. Information Support and Data Processing Plans

The use of ADP technology at the Government Printing Office is widespread and generally effective. Because of the success of the Superintendent of Documents applications, other areas of GPO are increasing their demand for data systems service, chiefly for on-line applications. At present, detailed automation plans exist for each department in GPO, and there is a detailed estimate of manpower required to support the applications approved by the Automated Data Services Steering Committee. However, no detailed data processing plan exists that integrates the individual automation plans into a unified plan.

- Recommendation: A GPO-wide data automation plan that is coordinated with the GPO Five-Year plan should be developed. Additionally, the Data Base Administrator would develop guidelines and criteria for the implementation of a data base approach that would establish a single source for updating operating information. In this way, consistent results from operating data are ensured.

- Anticipated Benefits: Through the identification of redundancies in the individual plans, systems development activities may be coordinated so that information is gathered and distributed without duplication of effort or inconsistencies in the data.

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PART TWO

ACCOUNTING AND FINANCIAL MANAGEMENT ASSESSMENT

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I. INTRODUCTION

The Joint Committee on Printing, in soliciting contractor proposals to conduct an in-depth review and evaluation of the policies, systems, processes and management of the U.S. Government Printing Office, specified the following financial management and cost accounting areas be reviewed:

- Identification and analysis of the annual billings charged to Congress by GPO for fiscal years 1975, 1976, and 1977.
- Analysis and evaluation of GPO's cost accounting system and cost accounting principles.
- Analysis and evaluation of Congressional surcharges (including the amount and type and their financial basis and justification).
- Comparison for fiscal years 1975, 1976, and 1977 of the total annual cost to GPO for production for the Congress and other "clients" to the actual total annual billings.
- Identification of the percentages in terms of actual cost to GPO of production for the Congress performed in-house or procured from commercial sources.
- Identification and evaluation of GPO's current cost recovery formulae and methods.
- A comparison of the above with those of commercial printing, publishing, and distributing concerns.
- Identification and evaluation of the current pricing formulae and comparison with past pricing formulae (1976 through the present) to determine their respective effects on the increasing prices of publications.
- Comparison of current GPO pricing formulae with those of commercial printing, publishing, and distributing concerns.
- Analysis of GPO policies and practices governing its "revolving fund."

Coopers & Lybrand's approach to addressing each of the above areas consisted of review and analysis phases. The project team first conducted an in-depth review of GPO financial operations (cost accounting, pricing, etc.) and systems and followed up with analyses based on the team's experience in governmental practices and procedures, related industry practices and a comparison of desired with actual results.

The purpose of this part of the report is to present our findings and recommendations derived from our analyses and evaluation of those findings. It is presented in four major sections: Cost Accounting, Pricing, and Billing; Accounting Systems and Procedures; Industry Practices; and a Summary of Recommendations For Improvements.

II. REVIEW AND ASSESSMENT OF COST ACCOUNTING, PRICING AND BILLING PROCEDURES

Cost accounting generally is seen as having two major purposes: management control and inventory valuation or product costing. Management control concentrates on departments or "cost centers" as the primary focus for cost planning, cost accumulation and cost control. Such centers should be the smallest segments of responsibility for which costs are accumulated. Within GPO, this definition for cost centers generally corresponds with those units identified by four digit "cost codes." For managers to excercise effective control in any organization, two criteria must be present:

- An individual manager in charge of a cost center must have authority and responsibility for efficient performance.
- An accounting system must accumulate costs by department or cost center to assist in planning and control by pinpointing responsibility and thus providing the capability to hold the cost center manager accountable for his performance.

The second major purpose of cost accounting is product costing for purposes of inventory valuation and income determination, i.e., the measurement of revenue less costs. Therefore the cost accounting system must not only accumulate costs by cost center for control purposes but must also apply those costs to physical units of product as they pass through each cost center. In assessing the GPO cost and pricing systems and procedures, we will generally focus on each of these key objectives: management control and product costing.

Before cost accounting procedures are discussed in detail, it is useful to briefly review GPO's formal cost accounting principles and standards as presented in GPO Directive No. 435.1 dated October 1, 1971. The principles expressed for GPO cost accounting can be summarized as follows:

- An integrated system for reporting costs on the accrual basis against cost based budgets.
- General ledger control or reconciliation of costs.
- Recognition of all costs incurred to the extent practicable.
- Common classifications for planning, programming, budgeting, accounting and reporting.
- Responsibility-oriented classifications.
- Adequate information for budgetary projections and performance appraisals.
- Provision for bridging costs to obligations and accrued expenditures.
- Project accounting that provides for tracking project costs beyond a fiscal year.
- Identification of costs as direct, indirect, variable and fixed.
- Segregation of costs into object classifications.
- Appropriate control and distribution of indirect costs.

The following comments are pertinent concerning cost accounting principles:

- Because of the general nature of the discussion of the principles and standards contained in the directive, an assessment of their utilization and impact is possible only in broad terms.
- Outside of this directive little formal documentation of principles, standards, and/or procedures exist.
- As will be seen from the succeeding text of this report, in many cases these principles and standards are being less than adequately implemented or carried out. For example:

- The system provides for a responsibility orientation and performance appraisals in name only. In fact, the derivation and routine adjustment of the all-inclusive rate, among other things, precludes holding a manager strictly accountable for his organization's performance and/or variances from plan. Variances here do not mean variances from planned workload but variances in costs per unit of workload.

- The cost reporting system does not provide sufficient supplemental information such as inventory turnover, labor efficiency or labor price variances, material price variances, etc.

- The apparent segregation of budgetary and cost reports leads to implicit separation of budgetary/management control and product costing, processes which should be closely integrated.

Although some of the above data exists in the current system, it must be manually manipulated to get it in the necessary format. These as well as other issues and practices will be discussed in the following sections.

A. Cost Accounting Practices

The nucleus of GPO's cost accounting system is the all-inclusive hourly rate. The rate is intended to provide a uniform, consistent charge, i.e., price or hourly rate, for each GPO printing and binding operation and class of work, taking into account the most efficient and economical methods of production. Some basic terminology must be defined:

- Operation is a basic procedure within GPO's production process such as composition, presswork, photoengraving, or bindery work.

- Class is a further segmentation of an operation, detailing specific and precise procedures such as gathering and stitching, trimming or folding, within a general category or operation.

- Direct Labor is all labor obviously related to and expediently traceable to specific products; for example, labor of machine operators.

- Indirect Labor is all labor which cannot practically be traced to specific physical units of product.

1. Formulation of the All-Inclusive Rate

The all-inclusive rate is formulated by aggregating operating costs on an operation/class basis. These costs include direct labor, indirect labor, supplies, maintenance costs, depreciation, leave and holiday time, personnel benefits, and overhead, all of which are either directly incurred in the performance of an operation/class or are allocated and reallocated to the operation/class.

The following are brief descriptions of where these costs emanate and how they are incorporated into the all-inclusive rate:

- Labor Hours - Direct or indirect labor is accumulated by the Cost Accounting Branch through the utilization of the PROBE system. By inserting an identification card into a centrally located terminal, the time and attendance status of each employee is recorded on a daily basis. The system records the number of hours worked as well as the operation and class of work effort the employee is engaged in. Each month's data are compiled and a printout is produced that recapitulates the total labor activity for the period according to the respective operation/class. The automated PROBE system also provides the product of labor hours times the actual hourly pay scale for each individual. Personnel in the Cost Accounting Branch review the printouts to ensure that at least 8 hours per day are recorded for each employee (whether it be labor or vacation time) and that the work effort has been categorized in the proper operation/class. Any discrepancies/variances are investigated and corrected. Labor costs are then manually posted each month to source documents (worksheets) that are used in the calculation of the all-inclusive rate.

- Machine Hours - Machine time is recorded manually within the cognizant production departments. A daily transaction sheet is maintained for each machine, which enumerates the operation/class performed by the machine and how much time the process involved. Generally, a machine rate is used for applying costs to an operation/ class if more than one employee works on a machine. The machine rate takes into account the time spent by each employee and his relative unit labor cost. The machine transaction sheets are forwarded to the Cost Accounting Branch, where the data are manually entered into the PROBE system data base. Reports similar to the labor reports are compiled for machine hours and costs and reviewed by the Cost Accounting Branch. Established standards of required machine time per operation/class and production averages are then reviewed in order to pinpoint discrepancies in the reported machine costs. Finally, these costs are posted to the all-inclusive rate source documents (worksheets) according to predetermined classifications of direct or indirect machine functions.

- Overhead - Overhead figures are compiled by the General Accounting Branch and recorded on the monthly "Statement of Revenue and Expense by Cost Code." Overhead cannot be associated with any specific units of production or jackets. It consists of:

    - Administrative Expenses including expenses identified with the Office of the Public Printer, Office of the General Counsel, Office of Comptroller, Office of Director of Personnel, and the Office of Director, General Services.

    - Building Expenses including expenses of the Engineering Division, the Building and Mechanical Branch (Electrical Section, Power Section, Paint Section, Carpenter Section) and the Office of Director, Security Service (Protective Service Branch, Personnel Security and Investment Division).

    - Production Services including expenses of the Congressional Jacket Cost Review Section, Office of the Production Manager, and the Office of the Customer Service Manager.

    - Division Overhead including expenses of the Superintendents' Offices within the production and field printing operations, allocated back to each cost center within the Superintendent's respective division.

- The overhead costs, accumulated by cost code, are manually allocated to production centers -- including field printing and RPPOs -- on the basis of number of employees per cost center, except for building expense which is allocated on the basis of square footage occupied. Overhead for the Superintendent of Documents is not allocated according to this process. Instead, a lump sum is allocated to Documents on the basis of historical trends. The Cost Accounting Branch then obtains copies of the final allocation figures and reallocates the overhead charges to various operations/classes, within the production centers, on the basis of the ratio of labor hours per operation/class to labor hours for the entire division. This procedure is done manually on a monthly basis.

2. Computation of the All-Inclusive Rate

The ultimate computation of the all-inclusive rate is done manually on a quarterly basis. Each quarter the grand total of expenses for each operation/class is aggregated and divided by total labor or machine hours charged to the respective operation/class. The result is a revised hourly rate which accounts for all operating costs except overtime, night differential, and security assistance (those costs are recovered through the use of a surcharge). To this calculated rate, a percentage estimate for proposed wage increases or modernization factors which could lead to additional costs, e.g., higher depreciation, is added. The current January 1, 1978, scale of prices reflects the accumulation of costs for a 12-month period ending June 30, 1977, adjusted for wage increases and modernization changes expected in the following 6 months.

Until recently, the individual rate per operation/class was changed or updated on the basis of the "bottom line" (profit or loss) results for printing operations. If a loss was incurred or anticipated, an increase in the rate was instituted either for an individual operation/class or across the board for all operation/classes. Currently, the all-inclusive rate is calculated on a monthly basis and trends are examined quarterly for variances between the actual rate calculated and the rate currently maintained in the scale of prices. If the variances are significant the rates are adjusted.

Once the all-inclusive rate has been calculated as indicated above it serves two key functions:

- The basis for establishing the scale of prices, which in turn provides for formal and informal cost estimates for any agency requiring GPO services.
- The basis for billing customer agencies for services performed.

The first function will be discussed below, while the second will be included in a discussion later in the section on billing procedures.

3. Scale of Prices

The first step in computing the scale of prices focuses on a monthly report, the "Statement of Cost -- Labor and Production," which details the number of hours of output (machine and labor) associated with each operation/class. In addition, the "Statement of Cost -- Labor and Production" reports actual production in units, pages, or set-ups for each operation/class. Each operation/class can be associated with some form of actual production output, whether it be number of pages folded, number of holes drilled, etc. The hours

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of output divided by the actual production equals the amount of time spent to produce one unit within an operation/class for that period.

Statistics for the previous 5-year period are also obtained from these reports. Therefore, based on yearly totals, the high and low yearly figures are excluded and an average is taken for the remaining three years. Various operations/classes do not occur year after year. In cases when an average time cannot be adequately determined, a rate making specialist within the Cost Accounting Section uses the scale of prices to determine the average time considered appropriate for the operation/class.

The current all-inclusive hourly rate multiplied by the average time per unit of output for each operation/class provides the unit cost that must be recovered for GPO to break even on services rendered, i.e., to be charged for output produced for each individual operation/class.

4. Observations on Cost Accounting Practices

Cost accounting systems must contain the elements necessary for controlling routine operations. Techniques must be developed to satisfy the requirements of the system and present adequately any information collected. Stated concisely, the basic requirement of a cost accounting system is to represent some physical environment, delineating what is made, how it is made, where activity/cost occurs, when the cost occurs, and how reported activity differs from planned activity. Thus, the system should not only provide for product costing and cost control but for cost analysis as well.

Cost accounting within GPO meets these criteria in the following manner:

- Product Costing - provides for costs to be assembled and associated with a jacket or finished product. Costs are applied to the physical units that pass through various operation/classes.

- Cost Control - in most cases operation/classes can be associated directly with specific departments or cost centers. There are certain operation/classes which are analogous to only one department or cost center. A cost center is the smallest segment of activity or area of responsibility for which costs are accumulated. Typically, cost centers are departments or divisions, but in some instances, as is the case with GPO, a division contains several cost centers. GPO's accounting system accumulates costs by cost centers, assisting in the planning and control process by pinpointing responsibility for total cost. However, this process generally does not get the proper managerial emphasis but is treated more as a byproduct of the product costing process.

- Cost Analysis - to a great degree is concerned with the process of calculating and adjusting the all-inclusive rate. That is, significant changes in the rate should initiate an investigation. However, the combined or all-inclusive rate precludes adequate analysis of key variances and the assignment of responsibility for those variances.

In order to apply product costing and cost control, we feel GPO's cost accounting system requires an unusual amount of clerical attention. Many documents are produced manually from computer listings rather than utilizing the computer's total capabilities. There seems to be too much reliance placed on manual processing, as well as an excessive amount of manual verification of computer output. This use of manual support is time consuming, costly, and causes inefficient utilization of staff resources.

The study team is aware that GPO has an understanding of the problems and is working on improved use of computer technology.

However, it is our opinion that computer technology could have been fully implemented by this time. Recommendations were provided by GAO in its 1975 report, "Opportunities to Improve the Utilization and Management of Automatic Data Processing Resources," but some of the same problems highlighted in this report are still evident in GPO. Whether there is difficulty in substantiating its needs to Congress and gaining Congressional approval for additional computer technology, or a lack of proper guidance and implementation by GPO management has not been determined by this study team.

Another area needing strengthening in the cost accounting system of GPO is cost control and analysis. Managers make two types of decisions in the planning and control of costs: price decisions and quantity decisions. That is, materials and human resources (inputs) are supposed to be obtained at the lowest possible price consistent with quality and utilized to produce the maximum amount of acceptable output. Inputs may be effective in producing a derived objective but may not maintain an optimum relationship with output. For example, a finished product may be effectively produced within GPO, i.e., a product of acceptable quality produced on time, but may not be produced in the most efficient manner, i.e., control of overhead costs or waste of direct labor or materials. We believe that GPO accurately monitors the effectiveness of operations by comparing actual production with historical or average standards of production and by adjusting the rate to recover costs based on the "value of services performed." However, we do not believe there is adequate monitoring of efficiency especially in the consideration of variances between planned (budgeted) and actual cost elements, _e.g._, labor rates and hours, materials prices and quantity, overhead rates, etc.

We suggest that, to overcome this situation, standard costs for labor, materials, and overhead be developed and utilized in GPO's cost accounting system. Standard costs are carefully predetermined costs or target costs. Not only will standard costs reinforce the recognition of responsibility in individual cost centers but will also direct attention to cost critical or problem areas and simplify recordkeeping requirements in Cost Accounting. For example, if standard rates are established for a predetermined period then cumulative variances for labor, materials and overhead can be measured and analyzed for each cost center. To maintain a break-even status adverse variances can be recovered by adjusting predetermined prices rather than rates. Standard costs would also aid GPO in improving its budgeting and feedback system by providing a framework for judging performance as well as maintaining a break-even posture. Variances can be investigated to decide on improvements in the implementation of a given work plan or budget for the succeeding years as well as the modification of operating methods and procedures.

B. Pricing Formula Analysis

Government publications are sold by GPO through mail order and pick-up operations in a central office in Washington, distribution centers in Pueblo, Colorado, and Laurel, Maryland, bookstores, and consigned agents in other Government agencies. Two programs are operated for the sale of publications produced by or through GPO:

- General Sales Program - includes the sale of those publications which under Section 1708 of Title 44 are offered for sale to the public by the Superintendent of Documents at a price based upon the cost as determined by the Public Printer plus 50%. The General Sales Program covers those titles priced to recover costs. The funding for all expenses of this program is from sales receipts. The success of the funding procedure depends on the ability of the General Sales Program to operate at or above the point at which revenue exceeds costs. Surplus receipts from sales are deposited in the Treasury of the United States to the credit of miscellaneous receipts.

- Special Sales Program - includes the sale of those publications whose prices are not controlled by the Public Printer, either because external constraints prevent him from independently exercising his pricing authority over them or because their prices are established by other provisions of the United States Code. The Special Sales Program covers the sale of publications such as the Congressional Record, the Federal Register, and the Presidential Papers. Many of these publications are not financially self-sustaining and, until the sales program was divided into two sections, losses from the sale of these publications distorted the overall financial condition of the sales program.

The pricing of publications for the General Sales Program involves a process whereby each publication produced within GPO or procured externally for sale to the public is earmarked to one of 32 categories. Categories are differentiated depending upon several distinctive features analogous to every publication, e.g., size, type of binding and paper. Exhibit 2-1, following this page, graphically displays the GPO Pricing Categories and Characteristics. As an example, publications in pricing category No. 13 are produced using a short run process, are printed on paper from category I, have paper sewed covers, and are within the size parameters of 6-1/2" x 9-1/2" to 8-1/2" x 11". Each category is further

EXHIBIT 2-1

GPO PRICING CATEGORIES AND CHARACTERISTICS

Short Run

Pricing Category	Paper Category I	Paper Category II	Self-Covered Stitched	Paper Cover Stitched or Adhesive Bound	Paper Cover Sewed	Case-Bound Sewed	Up To 6-1/2 x 9-1/2	6-1/2 x 9-1/2 to 8-1/2 x 11-1/2
1	X		X				X	
2		X	X				X	
3	X			X			X	
4		X		X			X	
5	X				X		X	
6		X			X		X	
7	X					X	X	
8		X				X	X	
9	X		X					X
10		X	X					X
11	X			X				X
12		X		X				X
13	X				X			X
14		X			X			X
15	X					X		X
16		X				X		X

Short Run: Flatbed Press

Long Run

Pricing Category	Paper Category I	Paper Category II	Self-Covered Stitched	Paper Cover Stitched or Adhesive Bound	Paper Cover Sewed	Case-Bound Sewed	Up to 6-1/2 x 9-1/2	6-1/2 x 9-1/2 to 8-1/2 x 11 1/2
17	X		X				X	
18		X	X				X	
19	X			X			X	
20		X		X			X	
21	X				X		X	
22		X			X		X	
23	X					X	X	
24		X				X	X	
25	X		X					X
26		X	X					X
27	X			X				X
28		X		X				X
29	X				X			X
30		X			X			X
31	X					X		X
32		X				X		X

Long Run: Web Press

EXHIBIT 2-2

CURRENT PRICING FORMULA
FOR SALE OF DOCUMENTS TO THE PUBLIC

Printing and Binding Costs (per page)

+ Paper Costs (per page)

+ Cover Costs (per cover) ________

Subtotal

X 1.03 Reprint Charge ________

Subtotal

+ Fixed Costs Charges ________

Subtotal

X 1.06 Unsalable Publications Charge ________

Subtotal

X 1.50 Per Section 708 of Title 44 ________

Subtotal

+ Postage ________

Unaltered Selling Price

+ Add On (if necessary) ________

Unrounded Selling Price ________

subdivided according to a range of customary pages per publication, a range beginning at 4 pages and continuing in 4 page increments to 512 pages. Associated with each 4 page interval is the suggested selling price. By means of an identification of distinguishing characteristics, a publication can readily be associated with a suggested selling price. The compilation of suggested selling prices is called the "Document Scale of Prices."

1. Document Scale of Prices

The formulation of the Document Scale of Prices entails the combination of several components which are set out in Exhibit 2-2, following Exhibit 2-1. These components along with a discussion of the formation process follows:

- Printing and Binding Costs are established for each category within the scale. The cost of each operation and class necessary for the completion of a publication is determined from the printing and binding scale of prices. A unit (page) printing and binding cost is then accumulated for each required printing or binding process and further extended for the aggregate number of pages per individual publication.

- Paper and Cover Costs are compiled and updated on a regular basis. Current contracts provide approximations of GPO's material costs and serve as a guideline in specifying unit material costs.

- Reprint Charges are 3% of those costs associated with the above-named components. These reprint charges are then added to the pricing formula. This charge is necessary because reprints of publications out of stock or in continual demand often require a duplication of functions, primarily back-to-press charges. To recover these costs the 3% factor is added to every publication, whether or not the publication is a reprint. It is an arbitrary percentage determination, used only to recover an approximation of expected reprint charges.

- Fixed Costs include overhead costs and other indirect costs that are distributed to the sales program. They

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are correlated with the number of publications expected to be sold in a forecasted period to obtain a fixed unit (publication) distribution charge. The fixed costs included in the pricing formula are then distributed in an administratively expedient manner and include significant overhead costs not directly related to the processing of an order.

- Unsalable Publications Charges are 6% of the total costs associated with all the above-named components, the product of which is added to the pricing formula. The purpose of this additive is to recoup the costs associated with publications which are destroyed rather than sold to the public because they are obsolete or out of date.

- 50% Add-On component is based on an interpretation by the Public Printer of Section 1708, Title 44 of the U. S. Code which states:

> "The price at which additional copies of government publications are offered for sale to the public by the Superintendent of Documents shall be based on the cost as determined by the Public Printer plus 50%.

The size of the percentage is fixed by law at 50% but the factor's impact on the pricing formula is dependent upon the Public Printer's interpretation of cost. The "plus 50%" is interpreted to mean "plus 50% of cost," but the law does not define "cost." The 50% charge is applied to all elements of the formula except postage and the add-on.

- Postage charges are presently estimated by a method that utilizes the number of pages, size, and type of cover. Using these factors, the weight of a publication can be estimated. Once the weight has been estimated, the mailing cost can be readily determined. GPO regularly compiles sample data as to the weight and distribution of what is in a package sent out from GPO.

- Add-On is a figure included in the final selling price as a means of recapturing the cost of publications whose prices have been administratively lowered in order to ensure wider distribution to the public. The price of a publication might be lowered in order to make it available to the public at a more reasonable rate, even though the Document Scale of Prices indicates that a higher price should be charged. The estimated difference between the actual selling price and the higher, suggested selling price is added onto various other higher priced publications which are already recovering full costs according to the Document Scale of Prices. This add-on figure can range from $.10 to $.80.

- Rounding is used in two instances. Up to $2.50, the suggested selling price will be rounded upward to the next highest $.10 increment. Above $2.50, the rounding is in increments to the next highest $.25.

The Document Scale of Prices can be utilized to specify a unit price for each publication, as long as the publication's specifications comply with the scale. The scale has automatically and routinely combined each component of the pricing formula. In the case of a publication which conforms to one of the 32 categories, the suggested selling price has been predetermined and is readily available. The suggested selling price is then forwarded to Superintendent of Documents for review. The price is not fixed, however, and can be altered if the Superintendent of Documents ascertains that, in light of past sales history or knowledge of the market, the publication will not sell or will not measure up to the desired level of distribution.

2. Alternate Pricing Methods

Publications which do not coincide with the Scale of Prices, such as publications over 512 pages, require a different approach. In this case, a printing specialist to accumulate all printing and binding costs using the GPO Scale of Prices. Manual calculations of reprint costs, unsalable costs, and handling charges are consolidated into the formula as well as postage costs, add-on, and profit factors. Publications in this category may also possess special color work, dividers, covers, or mailing cartons which do not have predetermined cost recovery and sales price formulas. The prices of

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these publications must be developed step by step using the same elements of cost as discussed with the Document Scale of Prices.

Publications which are produced outside of GPO are not always priced according to the procured cost, based on the contractor's invoice. If the procured document's specifications match a category in the Scale of Prices, this will become the basis for a suggested selling price. According to a general consensus of GPO management personnel, GPO printing and binding costs are higher than those of a commercial printer. Therefore, this procedure provides an additional increment of "profit" or, in many cases, the justification for SU/DOC to lower the suggested selling price.

By utilizing a similar pricing approach for publications procured and produced in-house, GPO will not offer them for sale to the public at dissimilar prices. This situation could arise, however, at a later date, when a procured publication is produced internally. Publications which do not fit into the scale are priced according to the basis of contractor's cost plus the customary handling, postage, and profit factors.

The financial philosophy under which the document sales program has operated for many years is analagous to the overall philosophy that GPO is to be operated on a business basis, at least breaking even financially, if not making a profit. For a number of years, the performance of the document sales program upheld this philosophy, with sales revenues exceeding total operating costs. However, in 1972 and subsequent years, net revenue from document sales was substantially less than the total appropriation for the program. In order to restore the sales program to a self-sustaining status, price increases and pricing formula revisions were instituted by the Public Printer. In the following paragraphs, the sources of the increases in costs will be examined, along with a discussion of the policies adopted by the Public Printer to revitalize the program.

3. Document Price Increases

The basic cause of the sales program losses can initially be attributed to large increases in program costs. Exhibit 2-3, following this page, summarizes the major changes in the sales program costs between fiscal years 1968 and 1977.

The total cost of the sales program increased by approximately $30 million, or 207% during this period. Of this total increase, 15.9% was due to increases in the cost of publications and 84.1% due to increases in distribution costs. As a result, the share which distribution costs contributed to total costs increased from 55.4% in 1968 to 74.8% in 1977, while the share which publication costs contributed to total costs declined from 44.6% to 25.2%. Although the inflationary trend in prices accounts for a portion of the program cost increases during this period, increases in sales volume, central office staff and the number of bookstores were also significant contributors.

a. Postal Cost Increases

Although there were substantial increases in all of the cost components of the document sales program, the largest occurred in the

EXHIBIT 2-3

SALES PROGRAM TOTAL REVENUES AND TOTAL COSTS
Fiscal years 1969-1977 (In thousands of dollars)

	1968	1969	1970	1971	1972	1973	1974	1975	1976*	1977
Total Program Revenues	16,954	19,988	21,341	22,180	23,402	23,682	34,307	35,076	54,941	43,262
Cost of Publications	6,468	6,179	7,912	6,500	9,342	8,643	14,970	8,916	13,504	11,295
Distribution Costs:										
Postage	1,039	1,348	1,403	1,759	15,057	9,600	10,560	11,520	15,375	6,442
Personnel Compensation	3,140	3,536	4,544	5,943	6,479	8,949	10,540	11,511	15,969	14,729
Administrative Expenses	1,137	1,374	1,705	1,841	2,960	4,631	4,855	—	—	—
Unsalable Publications	1,682	458	1,222	2,283	524	2,077	2,691	3,004	2,635	2,712
***Other Costs	1,037	1,286	1,437	2,849	2,600	6,744	9,643	**12,134	**15,200	**9,488
Total Distribution Costs	8,035	8,002	10,311	14,675	27,620	32,001	38,289	38,169	49,179	33,371
Total Costs	14,503	14,181	18,223	21,175	36,944	40,635	53,259	47,085	62,683	44,616
Profit (Loss)	2,451	5,807	3,118	1,005	(13,542)	(16,953)	(18,952)	(12,009)	(7,742)	(1,354)

* 15-month period including transition quarter

** Includes Administrative Expenses

*** Other costs include personnel benefits, travel, rent, communication, utilities, supplies and materials, equipment, and other services.

cost of postage, which reached $14 million by 1976. The increase in postage costs between 1968 and 1976 accounted for approximately 34.9% of the total increase in distribution costs. This rapid rise in postal charges has been singled out as the overriding cause for the SU/DOC price increase.

Prior to the enactment of Public Law 91-375 (Postal Reorganization Act), reimbursement for postal services was provided in an informal manner. Agencies paid for services based on, essentially, their discretion with the result that the Post Office subsidized the operations of a number of Government agencies. The failure of the Post Office to receive adequate reimbursement for services was then met through supplemental appropriations from Congress. Effective July 6, 1971, new mandates were placed upon the Postal Service with the enactment of the Postal Reorganization Act. A basic premise of the Reorganization Act was that, in order to maintain postal rate integrity among all its customers, the Postal Service must charge on a consistent basis for the class and level of services provided.

As previously noted, payments were made for postal services according to budget estimates. The agency might or might not have paid its actual postage bill. At times, the postal budget was used as a reserve to pay an agency's other operating expenses. With the enactment of the Postal Reorganization Act, agencies were required to pay full, unsubsidized rates because the option of receiving additional appropriations to cover such deficiencies was no longer available to the Postal Service. The reorganization thus required an effective accountability process to determine actual postal costs.

As a result of the Act, GPO had to pay $13 million more in postage costs in 1972 than it had in 1971. This, of course, did not reflect a true increase in cost to the Government, but the impact was that GPO, as well as many other agencies, could no longer use the Postal Service to subsidize its operations. Thus, in accounting for actual postage costs, GPO was faced in 1972 with recovery of almost a 100% increase in distribution costs.

Apparently, since that time GPO has not beer able to catch up with cost increases through the pricing mechanism. By the time price increases or revised pricing formulas were adopted, operating costs had again run ahead of revenues. Given the overall objectives of the sales program, the price changes were thus untimely and ineffective. The reasons for this and the actions that have been taken to return the General Sales Program to a self-sustaining basis are discussed in succeeding paragraphs. However, the reader will note that the bulk of the discussion centers on the formula for setting prices even though "profit" is driven by two basic variables - revenues (price multiplied by volume) and costs. This reference to the "profit formula" is to highlight our opinion that GPO generally ignores the cost side of the equation. The financial data emphasize the point, viz., personnel compensation has more than quadrupled since 1968, and "other" costs (personnel benefits, travel, rent, communications, etc.) have increased more than fivefold. Yet total revenue increased only 55% in the same period. Distribution costs have thus accelerated to more than 75% of total costs from 50% as recently as 1970. From these numbers it appears there is insufficient incentive to reduce costs as long as prices can be raised in an effort to recover those costs.

b. Manipulation of Price Formulae

Authority to determine the price at which documents will be sold and what constitutes "cost" resides with the Public Printer. Throughout GPO's history, cost has been defined differently by the Public Printers resulting in various pricing formulae as follows:

- Printing and binding costs plus a 50% markup.
- Printing and binding costs plus 25% to cover any cost that would be incurred in reprinting a publication.
- Printing and binding costs plus 25% for postage, 25% for administrative expenses and 25% for reprinting. The 50% markup was added to this cost.
- Full printing, binding, and distributing costs. The selling price was determined by multiplying the printing and binding costs by a sliding factor, a factor which should account for all distribution costs. A sliding factor is used so that publications with high printing and binding costs will not be charged with excessive nonprinting and binding costs, *i.e.*, the higher the printing and binding cost, the smaller the multiplying factor used to calculate other costs. Postage was added to this amount. The 50% surcharge in Title 44 was not included in the selling price.
- Full printing and binding costs multiplied by a sliding factor ranging from 2.25-3.00 (which includes the 50% markup) to calculate the amount to be added to cover all nonprinting and binding costs. Postage was added to this amount.

Throughout the progression of cost and pricing formula changes, printing and binding costs were accorded the prominent role. Other cost components were included in the formula on the basis of a direct percentage association with printing and binding costs, although costs of these components were increasing at a pace unrelated to incremental printing and binding costs. At first, temporary increases in the formula were instituted, focusing on a bottom-line price determination rather than individual cost components. However, costs were not being sufficiently recovered, nor was GPO effectively accounting for continuing increases in various elements of costs. In previous years GPO showed a profit in document sales relying on a cost recovery formula which "happened" to produce a profit. Previous formulae were based on arbitrary assumptions and there was little concern with the development or implementation of the formula as long as the program showed a profit. Only when the program was faced with actual and impending losses were attempts made to restructure and refine the formula. Finally, a more realistic determination of the interaction of cost components and the 50% factor was made which reduced the central role of printing and binding costs and included in the pricing formula all costs involved in the distribution of a document.

c. Present Price Formula

The present pricing formula is an improvement compared to formulae utilized in prior periods for a number of reasons:

- Fixed charges are not geared directly to printing and binding costs. Actual or budgeted charges have been incorporated into the formula.
- Handling charges are being allocated to the type of publication to which the charges are applicable. Handling costs had been distributed to all Superintendent of Documents publications whether or not those charges were related or chargeable to a particular publication.

- Postage costs are based on effective estimates of mail flow.
- The 50% factor specified by law is now included in the selling price as a profit factor or to recover other elements such as dealer discounts rather than as a device to recover other program costs previously excluded from the formula. However, there is widespread confusion both in and out of GPO as to the role intended for the 50% factor in the legislation.

A primary consideration is whether the present formula embodies the intentions of Congress as to GPO's mission and obligations to the public sector. There are two conflicting views within the Federal Government of GPO's mission in this area. One view sees the sales program as financially self-sustaining and that document prices should be raised to whatever levels are necessary to maintain the program on this basis. A somewhat different idea is that document prices should be maintained at low levels to make documents as widely available as possible and subsidies should be considered to achieve this objective. Recent Public Printers have chosen the former view. This also appears to be the predominant attitude in Congress, as professed in PL 95-94. Again we emphasize the fact that effective cost control is compatible with both views.

Exhibit 2-4, following this page, provides a summary of sales program costs and revenues since the separation of the program into two sections -- general and special. During fiscal 1977, the General Sales Program showed a profit of $12,000, while during the first 8 months of fiscal 1978, the profit improved to $612,000. Since 1976 the loss trends of the early and mid-seventies in General Sales appear to have been reversed by revisions in the pricing formula.

EXHIBIT 2-4

SALES PROGRAM TOTAL REVENUES AND TOTAL COSTS

Fiscal Years 1976-1978 (In thousands of dollars)

	1976 (15 months)		1977		1978 (8 months)	
	General	Special	General	Special	General	Special
Total Program Revenues	50,763	4,178	40,281	2,981	28,499	2,116
Cost of Publications	12,506	998	10,295	950	6,566	1,071
Distribution Costs:						
Postage	13,807	1,568	5,048	1,394	4,277	1,039
Personnel Compensation	13,678	2,291	12,290	1,099	8,691	549
Unsalable Publications	2,569	66	2,632	80	1,451	57
Other Costs	12,462	2,738	10,004	824	6,902	662
Total Distribution Costs	42,516	6,663	29,974	3,397	21,321	2,307
Total Costs	55,022	7,661	40,269	4,347	27,887	3,378
Profit (Loss)	(4,259)	(3,483)	12	(1,366)	612	(1,262)

The revised pricing formula is a significant improvement, but still possesses some inherent problems:

- The pricing formula can react to changes in cost components such as rises in printing and binding costs or postage rate increases, but the implementation of changes to the formula does not always provide timely benefits. It is difficult to accurately predict cost increases. Even if changes are determined ahead of time, it is sometimes a number of months before the benefits are realized. As an example, an anticipated postal rate increase may be developed into the pricing formula and all reprinting and new publications will be priced in accordance with the new postage rates. However, until all items in inventory priced with the old postage rates are repriced or sold, GPO is selling publications with prices based on charges lower than actual costs.

- Various components of the pricing formula are developed on the basis of estimated sales volumes. Handling charges are determined on a per unit basis, calculated by dividing estimated handling charges by estimated publication sales. If sales levels do not approximate the original estimation, the sales program will not recover all of its handling charges.

- Superintendent of Documents does not provide accurate or timely information as to sales volume or sales mix. Without proper determinations of historical and estimated sales levels, the pricing formula must be based on a number of highly judgmental and discretionary components.

- Various publications have their prices arbitrarily lowered by management to ensure wider available distribution. "Add-on," the difference between the actual selling price and the higher suggested selling price, is then added onto various higher priced publications. Although some pricing flexibility is required, this practice apparently is based on insufficient justification.

d. Recommendation on Document Pricing

GPO's pricing formula is similar to that of private industry and we do not foresee a need to restructure the present pricing formula. However, we do recommend some revisions in application methodology:

- Apply the pricing formula consistently to all publications. The pricing formula cannot serve any recognizable benefit to the sales program unless it is applied to every document. By altering a suggested selling price, Superintendent of Documents has circumvented the entire price setting practice, generally resulting in the loss of revenues on an individual publication. The Document Scale of Prices is specifically designed to recover costs and secure a profit. Thus, deviations can undermine the foundation of the pricing model, unless it can be demonstrated that by lowering the specified price of a document, sales volume and revenue will increase to a higher level or at least will not shrink to uneconomic levels.

- Review GPO's procedures for allocating fixed costs to documents. Discretionary and judgmental allocation procedures must be eliminated as much as possible. This includes the process of determining estimated number and mix of publications to be sold as well as the amount of effort supplied by Support Services and the Superintendent's office.

- Provide for more analytical determination of reprint and unsalable charges, rather than the approximations currently used.

- Automate the entire price setting procedure, partially automated now. The manual labor required to develop and institute the formula is costly, inflexible, and archaic. The Document Scale of Prices is compiled and updated by manual processes. Documents whose specifications do not fit into any categories of the scale are also manually priced. An automated system could determine the printing and binding costs required for any document and combine it with other necessary distribution cost components. Additionally, the system could be effectively and adequately monitored to ensure that full costs are being recovered and to provide rapid preadjustments. Actual costs per document could be compared to the final selling price, pinpointing any material deviations for analysis.

In addition, we believe that pricing policies will not be totally effective until there is effective information flow between the Superintendent of Documents and Financial Management Service. In our opinion, information required for development and implementation of the formula is currently not adequately communicated between the two departments since Documents is not compiling or tracking necessary data.

As a result, several price components, e.g., sales volumes, fixed costs, etc., are not as accurate as they should be. The profits which should materialize from the 50% profit factor are being absorbed by these inaccuracies and inefficiences in the pricing structure. This situation will not change drastically until SU/DOC accumulates and provides proper feedback to FMS and takes a firm position on the cost of distribution. We would strongly recommend that SU/DOC enforce the break-even objective through both revenue/price as well as cost manipulation.

C. Billing Procedures

GPO functions under a job cost or production order accounting system. Job cost accounting methods are used by facilities whose products are readily identified by individual units or batches each of which receives varying degrees of attention or skill. The essential feature of the job cost method is the attempt to apply costs to specific jobs. Each job is assigned a job order number (jacket number), either 5 digits for Congressional work or 6 digits for agency work. In addition, jackets are classified according to the color of the jacket print:

- Black jacket - the job was produced within GPO.
- Red jacket - the job was procured from a commerical source.

The jacket is essentially an envelope whose face details the production plan of a job. The quantity of publications or documents to be produced is listed as well as to whom finished products will be delivered. The back of the jacket details the delivery plan including estimated and actual delivery dates.

The computations necessary for developing billings for each category of work are varied and depend upon many factors. In order to determine proper charges to a requisitioning party, an analysis is required to be made of each jacket. Each jacket must be considered an exclusive, distinguishable entity.

The billing function commences as soon as finished products are delivered. The Billing Section receives the jacket/work plan of each closed job from the last point in the production process and reviews the charges applied to these completed jackets. Among the jacket material reviewed, the most significant items include the jacket cost summary and the preliminary cost estimate.

Operations/classes which would be needed to complete the production of the job are summarized on a jacket cost summary. When an individual or machine performs a function directly identified with a jacket, the jacket number associated with the job as well as the time expended is put into GPO's automated system. As the General Accounting Branch receives notification of finished jackets, summaries are requested from the automated system of all charges associated with a common jacket number. These charges consist of labor and material costs as well as other associated charges included in the surcharge calculation as required:

- Labor - Machine or man-labor time, is multiplied by the all-inclusive rate previously calculated for the operation/class in which the labor occurred. The labor expended is identified with the job by means of a jacket number.
- Materials - Cost accounting compiles a catalog of paper costs, based on contractors' suggested or expected prices. This catalog serves as the primary determination of paper costs passed on by GPO to requisitioning agencies. Other material costs are computed based on suppliers' invoices or GPO actual costs.
- Surcharge - Assessed at the standard rate in effect at the time. The surcharge is applicable to labor costs, shared proportionally by any agencies requesting copies of the finished product.

Once the jacket summary is produced, a number of manual steps are performed by printing specialists. Each jacket summary is examined to determine the appropriate billing amount. Occasionally, charges are either omitted from a summary or listed incorrectly. Therefore the printing specialist will, based upon experience and the production plan, make the necessary adjustments. Preliminary cost estimates are compared against the actual costs recorded on the jacket summary to determine if the estimates are correct. These preliminary cost estimates are prepared for requesting agencies by Customer Service using the Scale of Prices. Often they will not correspond to the actual costs due to variances in production time, increases in paper cost or changes in specifications.

The printing specialist also evaluates the plant performance by comparing established production standards with reported production. These standards, included in the Scale of Prices, can be used to measure the reasonableness of productive time and units of output included in the jacket summary. Any inconsistencies with established standards are reported to production officials. (Rider rates, charges made by GPO on a per unit/publication basis to those agencies which have requisitioned finished copies of a document but are not the originating agency, are collected and reported on the Summary Sheet for in-house work.) The Billing and Collection Branch first makes a determination of the amount GPO should recover from the agency which initiated the order, then determines which participating agencies are to be billed and at what rate. Finally, the printing specialist aids in the rate-making process by raising questions as to existing rates and develops actual rates for certain specialized work.

The charges recorded on the jacket summary are divided into two segments -- preprint and running charges. Preprint charges include those processes required before an actual printing process commences. These charges can range from cleaning a machine to setting or adjusting type. The requisitioning agency is responsible for all preprint charges. Running charges represent those costs associated with the actual printing and binding process. These costs are shared between the requisitioning agency and any other agency (commonly denoted as the "rider") which requests copies of a finished product.

The applicable rider costs are divided by the aggregate number of copies printed, producing a unit cost calculation for each rider copy. This rate, extended by the number of rider copies, equals the total cost to rider agencies. The rider cost subtracted from the total bill produces the amount to be billed to a requisitioning or originating agency.

The variance in billings to requisitioning agencies and rider agencies is emphasized by Exhibit 2-5, following this page. During fiscal year 1976, the Joint Economic Committee ordered 1,000 copies of an 857-page publication entitled "Soviet Economic Problems & Prospects." Rider agencies ordered an additional 9,711 copies of the publication. Charges to Congress of $83,275.69 for 1,000 copies of a book may appear to be high, since on a per unit basis for 10,711 copies, without segregating the rider costs, the book costs $10.66 per copy. Factors contributing to the high Congressional bill are:

- Author's Alterations - cost of editing, improving sentence structure and wording. These costs are allocated 100% to Congress, since the Joint Economic Committee was the original requisitioning source of the publication.
- Composition - cost of machine-set copy, allocated 100% to Congress since it is considered a preprint charge.
- Surcharge - applied to labor at a 25% rate. Due to the high composition and author's alteration costs, both of which are preprint charges, Congress was billed for 78% of the surcharge for this jacket.

The billing procedures are the same whether the requisitioning agency is Congress or an Executive agency. Rider determinations and rates are applicable to both sectors. The all-inclusive rates are the cost standards for both Congressional and agency billings.

Work procured commercially frequently contains both in-house and commercial charges. The billings for these jackets are determined by adding the commercial charges with the appropriate in-house

EXHIBIT [illegible]

"[illegible]"

Total Costs Recorded Against Jacket:

Labor	$ [illegible]
Materials	[illegible]
*Surcharge	[illegible]
	$[illegible]

Labor Consists of:

Composition	$ [illegible]
Presswork	[illegible]
Offset	[illegible]
Bindery	[illegible]
Author's Alterations	[illegible]
	$ [illegible]

Overprint Charges (Billed to Congress):

Labor	$ [illegible]
Material	[illegible]
Surcharge	[illegible]
	$ [illegible]

Running Charges (to be shared by Congress and requisitioning agencies):

Labor	$ [illegible]
Material	[illegible]
Surcharge	[illegible]
	$ [illegible]

Charges to Agencies:

Total Costs to Be Shared	$ [illegible]	
÷ Total Copies	[illegible]	
= Unit Cost to Rider Agency	[illegible]	
x** No. of Rider Copies Requested	[illegible]	
=***, Charge to Rider Agency	$ [illegible]	(A)

Charges to Congress:

Overprint Charges	$ [illegible]	
+ Balance of Running Charges	[illegible]	
=****, Charge to [illegible]	$[illegible]	(B)

Rider Charge (A)	$ [illegible]
+ Congressional Charge (B)	[illegible]
= Total Costs Recorded Against Jacket	[illegible]

Congressional Cost Per Copy:

Congressional Charge	$ [illegible]
÷ Copies	[illegible]
= Cost Per Copy	$ [illegible]

* [illegible] of Labor Cost

** Of the total [illegible] requested by rider agencies, [illegible] are paid by GPO as follows:

[illegible] - Requisitioned by [illegible], but paid for by GPO since [illegible] requisition was not enough to cover the entire charge.
[illegible] - Requisitioned by [illegible]
[illegible] - Requisitioned by Senate Library

*** Actual charge to agency was $[illegible]. Difference due to rounding.

**** Actual charge to Congress was $[illegible]. Difference due to rounding.

costs. If a job contains only commercial work, then the bid price with the appropriate administrative and handling additives becomes the final billing to the agencies.

Some special billing procedures do not embody the general billing processes described above:

- "Set Rates" - An agency may have an interest in all publications of a Congressional committee. Requisitions are instituted for the publications and come to GPO before the beginning of a fiscal year. A jacket number is issued and the agency is put on a central distribution list to receive X copies of every document originating from a committee. The agency is billed monthly or quarterly on this "standing order" at a set rate, based on accumulated costs to date. The procedure eliminates the need for compiling a bill for each document requested.
- Private orders - Congressmen or Senators can request services which are not reimbursed by governmental funds. Services in this category, which are predominately printing services, must be paid for in advance, from personal funds, before production begins. Usually a typical job is not billed until final delivery.

As previously mentioned, billings to Congress or other Federal agencies do not include any profit factors and are based on actual, recoverable costs. Congressional billings for the years 1975, 1976 and 1977 accounted for 15.0%, 21.5%, and 20.9% of total billings, respectively, by GPO to user agencies and as shown in Exhibit 2-6. The cost of Congressional work, net of surcharges, is detailed in Exhibit 2-7. This exhibit presents the approximate labor and material billings to Congress for both in-house and procured out-of-house work. The surcharge is excluded since it is questionable whether all Congressional surcharges are actual cost which should be passed on to Congress. During the years 1975-1977, Congressional

EXHIBIT 2-6

BILLINGS TO CONGRESS AND FEDERAL AGENCIES
Fiscal Years 1975-1977

	1977		1976 (15 months)		1975	
Congressional	$ 91,479,063	20.9%	$100,605,757	21.5%	$ 68,366,927	15.0%
Agency	345,650,084	79.1	395,467,300	78.5	387,792,359	85.0
Total Billings	$437,129,147	100.0%	$496,073,057	100.0%	$456,159,286	100.0%

EXHIBIT 2-7

CONGRESSIONAL WORK PRODUCED IN-HOUSE AND PROCURED
Fiscal Years 1975-1977

	1977		1976 (15 months)		1975	
Cost of Congressional Work Produced In-House	$ 78,333,152	99.4%	$ 92,999,258	99.2%	$ 56,150,735	99.8%
Cost of Congressional Work Procured Out-of-House*	505,101	.6	744,089	.8	130,445	.2
Cost of Congressional Work	$ 78,838,253	100.0%	$ 93,743,347	100.0%	$ 56,281,180	100.0%

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* Net of Surcharges

work procured out-of-house accounted for 0.9%, 0.8% and 0.6%, respectively, of the aggregate cost of Congressional work. The purchases for procured out-of-house work includes composition, letterheads, calendars, and various publications distributed by Congress, such as "Our Flag."

Costs associated with Congressional work will not always equal billed amounts. The all-inclusive rate utilized in billings is a predetermined rate and it is possible that this rate will not reflect actual costs on all finished products. Additionally, the 30% surcharge may recover more than the actual overtime or night differential charges associated with a finished product. In this case, billings would be more than actual costs. Even though these differences are evident, the variance between aggregate billings and actual costs for Congressional work can not readily be determined from GPO's present accounting and reporting systems.

Congressional costs and billings are not segregated, since Congressional work is afforded the same treatment as all other work produced by GPO. Congressional work does not have separate all-inclusive rates, cost centers, or cost allocation processes. Cost and billings can be determined for a specific cost center, but not the proportion of Congressional work produced. In addition, one unit of Congressional output might accumulate costs from several cost centers.

Our study team can only comment that Congressional billings for materials, labor and overhead are based on incurred costs, an allocation of overhead, and a surcharge assessment, all determined in a methodical, consistent manner.

In regard to our review of the overall billing function, we have noticed, as with other areas of GPO operations, that:

- The use of manual labor is extensive. All jacket cost summaries are manually reviewed and the final determination of a billing amount is a manual process.
- Computer technology supports a number of functions in the billing process, but an inordinate amount of time is spent reviewing computer-produced runs to determine their accuracy, to calculate rider charges, etc.

Although computer technology cannot be immediately implemented into GPO's billing process, we believe that a gradual phasing-in of increased computer-based services is possible. The Billing Section should not only have improved computer-based assistance in the formulation of individual bills, but should also be provided with direct access to a computerized system which will aid in the determination of work in process, finished goods inventory, and provide for other ad hoc inquiries. Presently, the Billing Section can receive computer-based assistance only through a direct request for computer services. The Billing Invoice Accounting System (BIAS) should, when fully implemented, alleviate many of the problems discussed above.

D. Surcharge Analysis

Surcharges are assessed by GPO according to the origin and priority of work. Origin refers to where the work is produced --

within GPO's Central Office or procured externally from a commercial contractor. Priority refers to the time requirements of the job, whether or not the job is needed on a "rush" basis.

Congressional work produced within GPO's Central Office and authorized as rush work is assessed a surcharge. The surcharge is applied to work which has to be done on an overtime basis, work which creates overtime on other work, or work which interrupts the production of other jobs for the purpose of accommodating a requisitioning agency. It is a surcharge for any job requiring special services or handling for which additional costs are incurred. Rather than averaging such costs over all jobs, and in turn increasing the all-inclusive pricing scale, GPO has developed one surcharge rate to transfer the additional costs on to the ordering agency. Currently, the rush surcharge is 30% of labor costs. No surcharge is applied to paper and other chargeable material costs.

A small proportion of Congressional work is procured from commercial sources external to GPO. This category of Congressional work includes the purchase of calendars, publications, letterheads and compostion. The surcharge associated with this category is designed to recapture administrative and special handling charges. For commercial purchases classified as printing and binding, a 6% surcharge is added to an audited invoiced amount up to and including $10,000. For invoice amounts over $10,000, $600 plus 2% of the invoice amount is charged, with a maximum surcharge per purchase order, jacket, or print order of $2,000. Commercial rush work classified as printing and binding up to and including $10,000 is assessed a 9% surcharge on the invoiced amount, while work over $10,000 is assesed $900 plus 3% of the invoiced amount with a maximum surcharge per purchase order, jacket, or print order of $2,000.

The rush surcharge associated with in-house production is calculated in the following manner. The costs of an individual job or jacket are summarized, differentiating between labor and material charges. The labor charges, with which the surcharge is associated, are divided into two segments -- preprint charges and running charges. Preprint charges, as noted elsewhere, are based upon those processes, such as make-ready time, required before the actual printing process commences. The requisitioning agency is responsible for all of these charges and accordingly is charged an additional percentage of the preprint labor costs. The running charges are associated with the actual printing and binding process. These charges are shared by the requisitioning agency and any other agency which has placed an order for copies of the finished product. As is the case with preprint charges, the surcharge for running charges is an additional percentage of the running labor costs.

An agency's designation of requisitioned work as "rush" provides GPO with the authority to levy a surcharge. Thus, the agency has agreed not to be regulated by the established scale of prices, which incorporates the most economical methods of production, but to have its requirements produced by available labor and machinery. The urgency attached to the receipt of the finished product necessitates the use of available production processes which may or may not be the most economical or efficient.

1. Rationale For Surcharge

GPO's rationale for assessing a surcharge is twofold. First, without the surcharge, GPO assumes that a larger contingent of agencies would contract for work on a rush basis. If an increased number of jobs were to be classified as rush, the burden placed upon the scheduling and planning activities would be unreasonable as well as unattainable. Therefore, a function of the added costs of the surcharge is to serve as a deterrent to an agency which desires to categorize its needs as urgent or rush. Second, there are categories of printing and binding operations, relating to the expedited service provided, for which additional costs are incurred. These costs include a labor differential for night work, overtime, special procedures for classified work, and extra security precautions. The surcharge is designed to offset or recover these additional charges.

GPO originally charged a 50% surcharge for special handling and overtime work for Executive agencies. In dealings with Congress, the surcharge practice originated as an attempt to recover, at a minimum, the 15% night differential costs. Later, attempts were made to recover other costs, especially the overtime costs, and gradually the surcharge increased to 25%. As detailed in Exhibit 2-8 following this page, the fluctuations in the Congressional surcharge are frequent and relatively large. These fluctuations are attributed

EXHIBIT 2-8

FLUCTUATIONS IN CONGRESSIONAL SURCHARGE*

November 1, 1968	25%
August 15, 1972	Changed from 25% to 50%
January 1, 1973	Changed from 50% to 30%
April 1, 1975	Changed from 30% to 40%
July 1, 1975	Changed from 40% to 30%
October 1, 1975	Changed from 30% to 25%
July 25, 1977	Changed from 25% to 30%

* Source: GPO Scale of Prices

to various attempts to recover costs through the surcharge, with the percentage changes determined by GPO's cost recovery requirements and objectives.

During fiscal years 1975 to 1977, GPO recovered approximately $26 million above the additional costs associated with rush work. Exhibit 2-9 (following this page) details the figures for each of these years. GPO maintains that, although in the past the surcharge has recovered more than the cost associated with it, it should continue to be applied at its present level because future costs could increase more rapidly than the surcharge could be increased. If this happens or if the surcharge rate is reduced and thus functions at a level where costs are not fully recovered, the Scale of Prices would have to be altered, resulting in distributing the costs associated with the surcharge throughout the Scale and in turn to all its subscribers. Also, as mentioned previously, a reduction in the surcharge rate could result in an unwarranted demand for rush work.

2. Determination of Congressional Surcharge

An exact determination of the surcharge billed to Congress during fiscal years 1975, 1976, and 1977 cannot be ascertained. GPO's information and accounting systems do not provide direct disclosure of the aggregate surcharge billings. In order to retrieve the data, one would have to examine every billing jacket (detailing and segregating all charges on an individual jacket basis) for the period in question. The projected time involved to complete this

EXHIBIT 2-9

OVER-RECOVERY OF SURCHARGE

Fiscal Years 1975-1977 (In Thousands of Dollars)

	1977	1976 (15 months)	1975
*Value of Services Performed	$17,882,793	$21,327,702	$17,175,441
**Cost of Services Performed	9,454,958	12,223,710	8,652,525
Gain	$ 8,427,835	$ 9,103,992	$ 8,522,916

*Value of Services Performed includes actual surcharge billed for both government agencies and Congress.

**Cost of Services Performed includes overtime premium, night differential and guarding of classified work.

task would be well beyond Coopers & Lybrand's time and contract considerations. In lieu of this procedure, a random sample of billing jackets was drawn in order to develop a statistically sound determination of the extent of Congressional surcharges for fiscal years 1975, 1976, and 1977.

Using a random number table, a sample of from 30-50 Congressional jacket numbers were chosen for each of the three years in question. The surcharge attributable to Congress was then calculated.

The mean of the surcharge calculations as a percentage of billing was applied against total Congressional billings relevant to the rush surcharge assessment. Those billings not associated with the rush surcharge include the bound Congressional Record, Details to Congress, and The Public Papers of the President of the United States as well as the billings for commercially procured work. All other Congressional work is usually assessed a surcharge, implying that the work is "rush" or urgently required. For the years 1975, 1976, and 1977, 94%, 87%, and 91%, respectively, of total Congressional billings included a rush surcharge. According to many managers at GPO, Congressional work is given priority and does interrupt the production of other jobs.

The findings of our sample (Exhibit 2-10 following this page) indicate that for years 1975, 1976, and 1977 the rush surcharge accounts for 22%, 19%, and 18% respectively of all relevant Congressional billings, or $11.5, $14.9, and $12.7 million, respectively.

EXHIBIT 2-10

CALCULATION OF RUSH SURCHARGE IN CONGRESSIONAL BILLINGS

Fiscal Years 1975-1977

	1977	1976 (15 months)	1975
Congressional Record	$ 13,205,727	$ 19,910,132	$ 6,287,085
Miscellaneous Publications	7,859,023	7,972,029	3,680,281
Miscellaneous Printing and Binding	10,595,852	12,590,323	9,776,211
Publications for International Exchange	668,797	634,908	528,371
Franked Envelopes	756,436	1,119,881	814,598
Document Franks	96,770	75,729	71,180
Calendars	1,759,072	2,369,395	1,718,884
Bills, Resolutions, and Amendments	8,950,288	10,120,972	7,985,188
Committee Reports	3,173,721	3,942,250	2,644,380
Documents	1,307,968	2,617,857	468,432
Hearings	19,406,817	23,668,236	17,745,610
Federal Register	14,245,089	13,031,622	7,776,209
Supplement to Code of Federal Regulations	2,918,279	3,541,225	2,499,814
Committee Prints	6,013,229	6,682,637	4,371,724
Automation of the Federal Register	502,816	108,261	—
Total Billings Before Adjustments	$ 91,479,863	$108,405,757	$ 68,346,927
*Less: Billings Not Applicable to Surcharge			
Bound Record	3,000,000	8,025,304	—
Details to Congress	4,996,977	6,238,394	4,218,813
Public Papers of the President of the U.S.	74,705	299,989	75,601
	(8,071,682)	(14,563,687)	(4,294,414)
	83,408,181	93,842,070	64,053,513
**Less: Work Procured Outside GPO	535,437	794,034	571,441
Total Billings Including Surcharge	82,872,744	93,048,036	63,482,072
Congressional Billings Net of Surcharge	70,231,134	78,191,626	52,034,485
Rush Surcharge	12,641,610	14,856,410	11,447,587
Applicable Billings Including Surcharge	82,872,744	93,048,036	63,482,072

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*Services of GPO employees performed at the Capitol. Includes permanent and temporary type details.

**Includes 6% administrative and handling surcharge.

In relation to total Congressional billings, the surcharge accounts for 16.8%, 13.7%, and 13.8%, respectively, of aggregate billings. In addition, Congressional work procured out-of-house has been assessed an administrative and handling surcharge of $32.4, $44.9, and $30.3 thousand, respectively.

3. Observations on the Surcharge

The study team agrees with many managers of GPO that the surcharge can serve a useful function by deterring unwarranted demands from GPO users for rush work. The knowledge of a substantial additional charge can persuade a user to re-evaluate delivery requirements. However, we have observed a number of uses and effects of the surcharge which raise questions as to its overall purpose and present percentage basis. These are discussed below.

Congress pays a surcharge for a predominant portion of its work produced within GPO. Since the Central Office's primary in-house production capacity meets the printing needs of Congress, Congressional requisitions are assigned precedence over agency requisitions. Accordingly in certain instances, Congressional work may be attended to before agency requisitions even though the Congressional work is not "urgently required." From our outsider's point of view, a significant proportion of Congressional work does not fall into the usual understanding or category of rush work -- 1, 2, or 3 day turnover -- yet, work which is not printed for 1 to 2 weeks from the date the requisition first arrives at GPO is still assessed a surcharge, even though it need not displace any agency work. We question whether the use of the surcharge in this manner still falls within the application guidelines established by GPO. These guidelines are:

- Work which has to be done on an overtime basis.
- Work which creates overtime on other work.
- Work which interrupts the production of other jobs.

We recommend a further evaluation of the routine use of surcharge for Congressional requisitions and the process of Congressional scheduling.

We fully understand the purpose of the surcharge and the necessity to recover "abnormal" costs, especially the costs of night shifts where the Congress provides a major source of work. Further, we understand that someone, whether it be Congress or another Executive agency, has to bear the burden of additional charges to recover surcharge related costs.

Another point to consider is that the over-recovery of related surcharge costs (costs which the surcharge is designed to recover -- overtime, night differential, and security) accounts for a significant percentage of GPO's operating profit from the printing and binding sector (Exhibit 2-11). The over-recovery, totaling some $26 million over the three-year period, does not, however, all flow to the "bottom line." Over the same period, only $17 million was reported as net income. This would indicate that the excess surcharges serve to "cover" inefficiencies throughout GPO which are not picked up in the all-inclusive rate. We do not think that this

EXHIBIT 2-11

TOTAL REVENUE PRINTING AND BINDING OPERATIONS
NET OF OVER-RECOVERY OF SURCHARGE
Fiscal Years 1975-1977

	1977	1976 (15 months)	1975
Total Revenue Printing and Binding Operations	$ 4,129,640	$12,131,068	$ 789,042
Less:			
Net Gain from Use of Surcharge	(8,427,835)	(9,103,992)	(8,552,918)
Total Revenue Printing and Binding Operations Net of Gain from Surcharge	$(4,298,195)	$(3,027,076)	$(7,763,876)

should be a role of the surcharge, especially considering the effort and resources currently devoted to the development and maintenance of the all-inclusive rates which, in theory, should provide for the recovery of all costs and the fact that Congress is assessed the bulk of total surcharges (71% in 1977).

It has been pointed out that, although the surcharge has over-recovered related costs and added to GPO's operating profit for the 3-year period examined, this may not be the case in future periods. Congress may adjourn for an extended or unforeseen period of time and, due to the lack of work, the surcharge may not be sufficient to fully recover the related costs. It must be remembered that even if Congress has no work available, there still will be personnel assigned to a night shift who must remain on the payroll pending the reconvening of Congress.

We recommend a restructuring of the surcharge so that the two previously stated objectives are more effectively attained: (1) the discouragement of unnecessary requests for rush work; and (2) the recovery of the extra costs incurred in doing work on a rush basis. The restructuring might involve a reduction in the surcharge or a more precise targeting of those jobs for which additional costs are actually incurred. This adjustment will have the following impact:

- Billings to Congress and other Federal agencies will be reduced and redistributed.
- The bottom-line profit figure will not include a significant proportion of over-recovered surcharges and will provide a more accurate picture of GPO's overall performance.

If the revised surcharge is not recovering related costs, it can easily be modified in the billing process by making an across-the-board adjustment. Considering the objectives of GPO, to essentially break even in its printing and binding operation, we believe it will be to the best interests of all parties to adjust the surcharge procedures. With more effective monitoring of all cost recovery elements, the surcharge can be effectively used for its intended purpose.

III. REVIEW OF ACCOUNTING SYSTEMS AND PROCEDURES

Government Printing Office accounting systems and procedures serve the following functions:

- Revolving Fund -- Printing and Binding Program
- Revolving Fund -- General and Special Sales Programs
- Congressional and Other Printing and Binding
- Office of Superintendent of Documents -- Salaries and Expenses

A brief description of these functions is included here. The following sections contain an overview of the accounting systems used to accomplish the financial accounting and reporting functions as well as an assessment of those systems and related financial policy and practices.

Government Printing Office activities are financed by a revolving fund which receives funds from four major sources:

- Appropriation for printing and binding services performed for the Congress and for authorized printing, binding and distribution of publications without charge as authorized by law.
- Reimbursements for printing services from departments and agencies of the Federal Government.
- Sales of Government publications to the public.
- Funds appropriated for certain GPO programs.

Receipts derived from these operations are available for use by the fund for the continuing cycle of operations.

The Government Printing Office Revolving Fund was established July 1, 1953 for "the operation and maintenance of the Government Printing Office, except the Office of Superintendent of Documents...." Capitalization was provided in the amount of $1,000,000 plus the value of "the current inventories, plant and building appurtenances, except building structures and land, equipment, and other assets of the Government Printing Office", (44 U.S.C. 309). Referenced section further provides that commencing with fiscal year 1969, the annual business-type budget for the fund shall be considered and enacted as prescribed by section 849 of Title 31.

The revolving fund encompasses three activities:

- Printing and Binding Services which includes in-house printing and binding services and commercially procured printing.
- General Sales Program which includes revenue from sale of publications to be priced pursuant to 44 U.S.C. 1708 (at cost as determined by the Public Printer, plus 50%). All expenses of this program are funded from general sales revenue.
- Special Sales Program which includes revenue from certain publications placed on sale to the public wherein the price of the publication is not established in accordance with Section 1708, Title 44; but in accordance with various other authorizations such as 44 U.S.C. 906, 44 U.S.C. 910, and 44 U.S.C. 1504; expenses of this program in excess of program revenue are financed by the Office of Superintendent of Documents Salaries and Expenses Appropriation.

In addition to accounting for the Government Printing Office Revolving Fund, the GPO performs the accounting and reporting function for the following appropriations:

- Printing and Binding for authorized printing and binding and distribution of the Federal Register as authorized by

44 U.S.C. 1509 and 1510, and printing and binding of the Government publications authorized by law to be distributed without charge.

- Congressional Printing and Binding for authorized printing and binding for Congress.
- Office of Superintendent of Documents, Salaries and Expenses for necessary expenses of four assigned functions:
    - Special sales of publications [net cost (loss) of program.
    - Distribution for other Government agencies and Members of Congress.
    - Depository library distribution.
    - Cataloging and indexing.
- Improvements to GPO Facilities, Acquisition of Site, etc., for major capital improvements.

A. Revolving Fund Accounting

Revolving fund accounting is accomplished through the use of a number of stand alone and partially integrated manual and automated systems operated by the Financial Management Service (FMS). The automated accounting system components which are integrated or interfaced (magnetic tape or manual) with other automated systems are identified in Exhibit 2-12 following this page. In addition to those systems, stand alone automated systems provide support for:

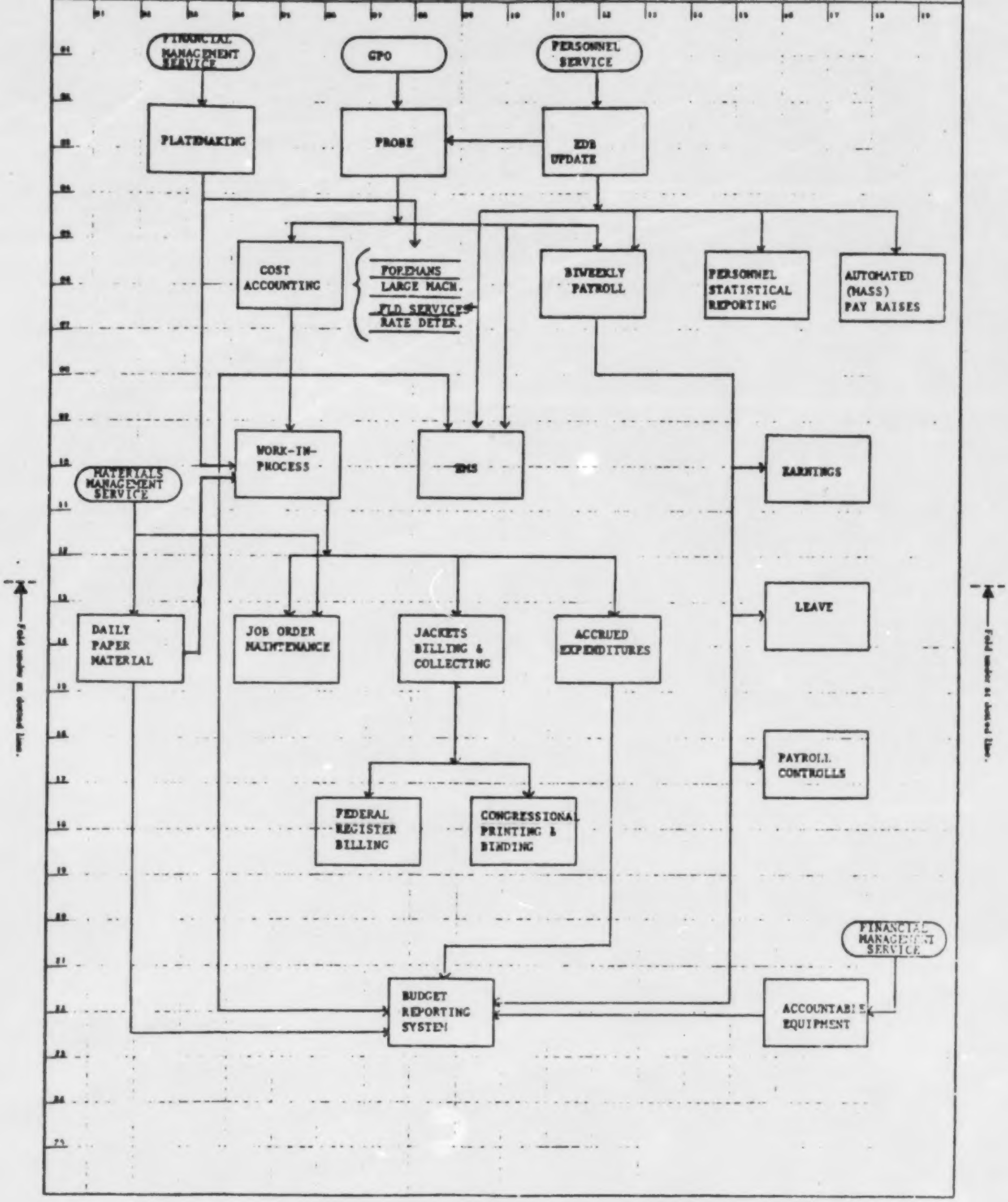
- Accounts Payable in procured printing
- Document Pricing's general schedule of prices for sales of publications.

The Superintendent of Documents (Receipts and Accounts Division, Documents Support Service) operates two other systems to accomplish accounting functions. These are the Government Accounts Billing

EXHIBIT 2-12

DIAGRAMMING AND CHARTING WORKSHEET

Application	FINANCIAL MANAGEMENT/PERSONNEL SERVICE	Date	Page 1 of 1
Procedure	SYSTEM INTERGRATION	Drawn By	



FINANCIAL MANAGEMENT SERVICE
GPO
PERSONNEL SERVICE
PLATEMAKING
PROBE
EDB UPDATE
COST ACCOUNTING
FOREMANS
LARGE MACH.
FLD SERVICES
RATE DETER.
BIWEEKLY PAYROLL
PERSONNEL STATISTICAL REPORTING
AUTOMATED (MASS) PAY RAISES
WORK-IN-PROCESS
EMS
EARNINGS
MATERIALS MANAGEMENT SERVICE
DAILY PAPER MATERIAL
JOB ORDER MAINTENANCE
JACKETS BILLING & COLLECTING
ACCRUED EXPENDITURES
LEAVE
PAYROLL CONTROLLS
FEDERAL REGISTER BILLING
CONGRESSIONAL PRINTING & BINDING
FINANCIAL MANAGEMENT SERVICE
BUDGET REPORTING SYSTEM
ACCOUNTABLE EQUIPMENT
Fold under at dotted line.
Fold under at dotted line.

System and the Deposit Accounts System. These systems will be replaced in part by the Special Accounts Reporting and Billing Control System (SARBACS), an integrated on-line accounting system for bookstores, government accounts, consignment agents and reimbursable transactions. Full implementation of this system is now in process. Summary information is supplied manually from these systems which are maintained by Superintendent of Documents to FMS for cash control, general ledger control and reporting purposes. The purpose of the following subsections is to provide a brief description of the purposes and functions served and an assessment of the capabilities of those systems.

1. General Description of Accounting Systems

The major accounting systems utilized by GPO to accomplish the accounting function for the revolving fund and related funds include:

- Platemaking
- PROBE
- Cost Accounting
- Payroll
- Work-in-Process
- Job Order Maintenance
- Jacket Billing and Collecting
- Accrued Expenditure
- Accounts Payable
- Accountable Equipment

- Document Pricing
- General Ledger

All of these systems have automated and manual components except the general ledger which is a manual system. A partial listing of the 22 ADP accounting systems with the purpose/functions served by each is shown in Exhibit 2-13. Data flow between systems may be accomplished by magnetic tape or from edited computer listing/reports which may involve rekeying of data input. Data are also input to many of these systems from other manually maintained systems. A description of the major system inputs, processes and outputs for a representative ADP system is shown in Exhibit 2-14.

Common features of most of the ADP systems include:

- Batch processing and extensive manual system controls.
- Data input accomplished from coded and batched documents, code sheets, annotated/corrected transaction listings, etc.
- Limited system front-end editing.
- Considerable number of error corrections and reruns.
- Response time limited by overnight turnaround of data input, and by successive rerun cycles for corrections.

The general ledger is a manual system. General ledger posting is accomplished on a posting machine from journal entries prepared in the various FMS offices. Preparation of all financial reports of operations (revenue and expense) requires analysis of journal entries, preparation of worksheets and other manual processes.

Exhibit 2-13

ADP Accounting Systems

Platemaking - operated by General Accounting and Plant Operations to accumulate cost data for input to the Work-in-Process systems and activity data for use by plant operations.

Production Reporting for Operations, Budgeting and Expenditures

(PROBE) - operated by Central Office departments and services, and Cost Accounting to collect labor and otherdata and to supply relevant data to other systems.

Cost Accounting - operated by Cost Accounting for accumulation of labor and production costs; data input from PROBE and other sources, labor cost used in other systems and in rate making, analysis functions.

Bi-weekly Payroll - maintained by Accounting Operations to provide payroll processing - time and pay computations, generation of payment, earnings and leave statements.

Work-in-Process - operated by General Accounting to accumulate all chargeable costs by category within jacket number for all printing and binding work accomplished by GPO. Completed job costs are transferred to finished work.

EMS - a productivity reporting system operated by Composing Department and Productivity and Work Measurement Branch.

Job Order Maintenance - operated by General Accounting for distribution engineering maintenance and repair costs.

Jacket Billing & Collecting - operated by Billing and Collecting to produce billing invoices and to maintain the accounts receivable file. An automatic billing subsystem provides an automated system capability for billing printing jobs without processing through finished work, i.e., by ADP processing from the WIP system.

Accrued Expenditure - operated by General Accounting to record accruals and cost for all purchases other than procured printing. A separate accounts payable ADP system is operated by General Accounting for commercially procured printing.

Budget Reporting - operated by Budget and General Accounting to produce the monthly expense budget report which compares budgeted and actual expense.

Accountable Equipment - operated by General Accounting to maintain accountability and financial control for all owned and leased equipment

Document Pricing - produces a matrix for each of the pricing scales.

Exhibit 2-14

Description of System Input, Processing and Output

Jacket Billing and Collecting - The purpose of this ADP system is to produce billing invoices for printing done by GPO and to maintain the accounts receivable file.

Basic inputs to this system and the billing process are:

- Jacket cost summary report and finished work punch card from the Work-in-Process system, and
- Production jacket which is a manually prepared record of the job.

Processes:

(Billing and Collection Branch; Disbursing Branch)

- Receives closed out jackets and jacket cost summaries from WIP system.
- Reviews source records for accuracy and completeness, investigates and adjusts as necessary, and manually prepares billing jackets.
- Forwards billing jackets to Data Center for key punching; daily billing transactions are the output of this process.
- Reviews and edits daily billing transaction listing, inputs corrections as required.
- When daily billing computer report balances, ADP system produces billing invoices, accounts receivable punched card for use in recording collection, and updates the monthly billing file and ledger files.
- Reviews billing invoices and dispatches for mail; files accounts receivable punched cards.
- When payments are received, prepares collection transactions using the accounts receivable punched card from the billing program.
- Batches collection transactions for data processing.
- Edits collection transaction listing; inputs corrections to computer center; verifies corrections made.

System outputs:

- Daily transaction listings, billing invoices, punch cards for accounts receivable.
- Monthly and quarterly statistical reports of jacket billing file showing control totals, opening and closing balances, recaps of Congressional and agency billings by classification (type work) with identification of SIBAC and other than SIBAC billings.
- Daily analysis of Congressional jacket billings.
- Monthly listing of accounts receivable with aging analysis.

Other manually maintained systems/records include:

- Individual employee leave records maintained by payroll unit.
- Record of employee bond deductions, bonds issued and bond deduction balances.
- Operations costs records for development of the all-inclusive rate maintained manually from outputs from cost accounting and other systems.

2. Recent System Improvements

During FY 1978 two significant accounting system improvements were completed. A brief description of these and suggestions for related improvement follow:

a. Special Accounts Reporting and Billing Control System (SARBACS)

This on-line integrated system, completed and implemented during FY 1978, is operated by the Superintendent of Documents to account for sales of publications. The system includes billing and collection processing and related functions for bookstores, government accounts, consignment agents and reimbursable transactions.

b. Simplified Intragovernmental Billing and Collection (SIBAC) System

The SIBAC system eliminates interagency receivables and payables, reduces the need for checks and deposits in payment of bills, and simplifies collection procedures for simultaneous billing and collection. This system permits the performing agency (GPO) to simultaneously process the billing and collection to Treasury for services performed for another agency. This greatly simplifies the accounting processing and workload, thus providing for improvement in cash flow -- a significant factor for a business-type activity. The process completely eliminates the considerable workload associated with receiving, controlling, safeguarding, depositing and recording cash collections into the appropriate records, and the tasks associated with monitoring and managing these receivables. At the present time this system, developed by GSA and Treasury, is only applicable when both the billing and customer agencies report their monthly transactions to Treasury on SF224. This excludes the DOD activities which make up more than one-third of Federal agency printing and binding billings.

Supplementing the SIBAC system for application to DOD organizations would significantly reduce GPO billing and collection workload, as well as further improve GPO cash flow. This would involve the use of Treasury procedures similar to those developed for GSA and DOD in 1972, and would require formulation of specific procedures and agreements between GPO, DOD, and Treasury.

The SIBAC system is equally applicable for billing and collecting charges for sale of publications to agencies but is not being used for this purpose. Although the dollar volume is not large in terms of total bills to agencies, the number of transactions is significant, and constitutes a considerable workload which could be eliminated.

B. Assessment of Accounting Systems

While the system improvements described above are significant, the SIBAC system involves a single process, and the SARBACS system does not support or interface with the FMS systems maintained for revolving fund accounting.

The problems observed in the operation of the FMS accounting systems are generally similar to those found in systems which have been in use for an extended period of time without major system updating. In terms of present day automation standards, these systems are generally labor-intensive, inefficient and lack responsiveness in meeting user requirements. User requirements include the information needs for internal management purposes and those for the operation of the systems. System reporting needs for internal management are discussed in Section C. This section is concerned with the account structure and user requirements for systems support of accounting operations.

The account structure does not provide adequately for classifying revenues and expenses for accounting control, reporting and analysis purposes. For example, the revolving fund printing and binding operations general ledger includes only these nominal accounts:

. Value of Services Performed

. Gain or Loss on Disposition of Fixed Assets

. Cost of Services Performed

Cost codes generally identify the responsible organizational component, and object classifications indicate the nature of the service or material. However, the combined code structure generally does not:

- Delineate between Superintendent of Documents general sales of publications to Federal and non-Federal entities.
- Provide classification of the categories of revenues earned from the various types of markups and surcharges added for:
    - material and paper sales
    - purchased printing
    - printing and binding operations.
- Provide for classification of cost related to specific categories of revenues which is necessary for analysis of cost of services furnished and related revenues earned.
- Provide for accumulation of costs by units of work.

The delineation of revenues and of obligations between Federal and non-Federal are required for external reporting. All of the types of account classifications enumerated above are requirements for internal control and management reporting.

GPO automated accounting systems generally do not effectively support accounting processes and operations. For example, these systems generally do not:

- Afford a comprehensive front-end edit capability at the point of transaction entry nor facilitate timely error correction.
- Interact with files in related systems or update records.
- Maintain history records on recurring payments or facilitate the generation of accrual transactions or payment transactions.

- Produce automatic payment listings and checks (other than payroll).

- Produce management notices and exception reports.

- Provide for effectively linking related transactions, *e.g.*, obligations, accruals and payments; related revenue and collection transactions, etc.

- Provide for automatic adjustment of obligations in conjunction with recording accrual or disbursement transactions.

- Provide identification or accounting control over the amount of unfilled customer orders.

- Facilitate reconciliation of subsidiary records to control accounts.

- Provide for accounting for variances for material purchase price, labor productivity, overhead, etc. -- a cost accounting technique commonly used for effective support of analysis and control functions.

- Provide data in the form needed for financial analysis and for management reporting.

- Provide an inquiry capability.

The foregoing may be considered to be objectives appropriate for accounting systems modernization and improvement.

Recommendations related to this assessment of revolving fund accounting are presented in Section V together with those concerning cost accounting, pricing and billing procedures from Section II as well as the final sections of this chapter: Financial Reporting, and Accounting Policies and Practices.

C. Financial Reporting

This section of the report presents a summary of reporting objectives with emphasis on reporting for internal management. It describes reports currently provided GPO management and identifies areas for improvement.

1. Reporting Objectives

Financial reporting is the end product of the accounting process and one of the primary purposes to be served by the organization's accounting system. A key objective of a Federal agency accounting system is to serve these three purposes:

- Provide the financial reporting required of the agency head by the Treasury, Office of Management and Budget, and the Congress.
- Provide compliance with statutory accounting requirements for Federal funds.
- Provide financial management information to production and activity managers at various levels within the agency or organization.

GPO Directive 435.1, Accounting Principles and Standards, which has as its basis Title 2, GAO Policy and Procedures Manual for Guidance of Federal Agencies: Accounting, has recognized these financial reporting requirements.

Both GPO Accounting Principles and Standards and Title 2 emphasize the importance of timeliness and usefulness of reports prepared for internal agency management. To be useful, internal financial reports should recognize and conform to assignments of responsibility to organizational units. Financial reporting which reflects performance compared to plans and goals or standards is a prime objective of business-type organizations, whether governmental or private sector.

The need for this type of management reporting is recognized in GPO 435.1 which is quoted in part:

> "7-2 c. Operational reports shall provide a means of comparing plans to performance, and for comparing similar operations from period to period, and between organizations. Provision will be made for comparing similar operations from period to period, and between organizations. Provision will be made for an anlysis of variances and reporting of these analyses to appropriate operating and program managers."

Subparagraph 7-5 b. provides for reporting of costs of operation in comparision with cost targets under cost-based budgets and with established standards for work performance when applicable.

The external reporting requirements, i.e., those for Treasury, OMB and the Congress, are clearly defined and apparently met satisfactorily. The following paragraphs describe current management accounting reporting and note some areas for improvement.

2. Current Management Reporting

Reports currently being produced monthly from GPO accounting systems for the use of internal agency management include:

- Financial Statements:
  - Financial Overview of GPO Operations.
  - Printing and Binding Operations - Statement of Revenue and Expense by Function.
  - Printing and Binding Operations Revolving Fund - Statement of Revenue and Expense by Object Class.
  - General Sales of Publications Operations - Statement of Revenue and Expense.
  - Special Sales of Publications Operation - Statement of Revenue and Expense.

- Comparison of Revenue by Source:
  - Printing and Binding Operations - Comparison of Revenue by Source.
  - Comparision of Revenue from P&B Operations of Central Office with P&B Procured Commercially.
- Statement of Revenue and Expense by Cost Code

Distribution of the above reports is generally limited to top management (Public Printer, Deputy and Assistant Public Printers, Department Managers and Service Directors) with no reports being provided to middle management or Division levels. Briefings, however, are provided operating managers.

The responsibility levels served by the first two listed reports (Financial Statements and Comparison of Revenue by Source) are generally the Public Printer, and Deputy and Assistant Public Printers.

The Revenue and Expense by Cost Code report contains cost data at the Division and Branch or Section level. However, this report is tied to the cost accounting processes related to the development of the all-inclusive rate. It includes cost transfers between organizations (Cost Codes) for allocations based on various formulae to transfer costs to benefiting sections/functions. The report does not show any identification of the elements that make up the charges or credits to the individual cost codes. Thus, this report does not specifically relate costs to the manager's organizational or functional assignment of responsibility, nor does it identify cost targets, budgets or standards for comparision and evaluation purposes. Consequently, its usefulness to management for control purposes is limited.

These functions, however, are fulfilled in part by the Expense Budget Report which does, in effect, provide fixed cost targets (budgeted expenses) and performance against those targets. This report is also deficient in that it does not reflect physical production nor does it relate directly to the Statement of Revenue and Expense since it is based on controllable or budgeted costs rather than full costs.

Annual financial statements are prepared and disseminated in the Annual Report of the Public Printer for each fiscal year. These financial statements for the revolving fund and appropriations for Superintendent of Documents and for Congressional printing and binding are summary level statements, and do not provide information useful for internal management.

3. Areas for Improvement

In our opinion, the current accounting system severely limits effective financial reporting for internal management. Reports are manually prepared from worksheets and journal entries prepared (manually) in various FMS offices. Consequently, many of the areas for improvement described below cannot be achieved without major improvements to accounting systems.

The following paragraphs describe areas for improvement in financial reporting for internal management purposes necessary for compliance with the applicable GPO and GAO principles and standards, which we consider essential for GPO management purposes, and commercial financial reporting practices which may have application to GPO reporting.

We believe the usefulness of current management reporting could be improved by:

- Presenting a narrative statement of highlights and explanatory notes for unusual items with monthly financial statements. For example, the Statement of Revenue and Expense for General Sales of Publications operations reflects postage expense of $187,000 for April 1978 (5% of sales) as compared to $3,730,000 (15% of sales) for FY 1978 year-to-date. It also reflects a prior year G&A expense of $1,090,000 charged to the current period. An explanation of such extraordinary items, major deviations from normal, and of significant adjustments would be useful for management's understanding of the statements.
- Revising the Statement of Revenue and Expense by Cost Code to reflect cumulative fiscal year data for pages 1 and 2 (distributions I, II, III), rearranging the report to relate costs specifically to assigned areas of responsibility and to include comparative data. Provide for dissemination of the financial data detail compiled on Section Expense Control Ledgers (SECLs) for the use of responsible management levels. This cost data is included in summary form on the Statement of Revenue and Expense by Cost Code. The level of detail included in the SECLs would increase the usefulness of this report at the Department/Service, Division, Branch/Section levels.

Areas for improvement in financial reporting for internal management purposes, which are stipulated in the applicable GPO & GAO directives, include development of the following types of reports and reporting capabilities:

- Operating reports which reflect the cost and revenues of operations in comparision with cost targets/operating budget costs and revenues, with reporting and analysis of variances for appropriate operating and program managers.
- Operating reports which provide a means for comparing actual production volume and cost incurred to planned production volume and estimated cost, and for comparing similar operations from period to period.
- Operating reports which relate actual costs to standards and work measurements used in the management system.
- Financial reports which provide information on unit costs.
- Financial reports which conform to assignment of responsibility to organizational units.
- Data system capability to produce reports needed for financial analysis, evaluation and management of receivables, inventories, revenues, costs, rates, etc., and of the type included in the Joint Committee on Printing RFP concerning, for example, the amount of Congressional surcharges billed.
- Data system capable of integration with GPO management information and control system(s).

Commercial financial reporting practices which may have application to GAO financial reporting include:

- Reporting on assignment of responsibility to individual managers for each line item of revenue and expenditures in organization operating and capital budgets.
- Inclusion of financial reporting for the various major departments or segments of an enterprise in annual and periodic reports, to include elements of revenue, costs, and net operating results for each department or segment. Applicable departments for GPO segmental reporting might include Central Office, Printing Procurement, and Field Printing.
- Inclusion of replacement cost data in annual reports similar to that required of commercial activities by the Securities and Exchange Commission. This might be limited to the major value segments of land and buildings, plant machinery and

equipment and building appurtenances. Such data should be useful to the Joint Committee and GPO in long-range planning and budgeting and in matters related to the planned move/modernization of GPO facilities, and for development of comparative operating data.

Section IV contains a more detailed comparison of industry practices with those of GPO. Additional comments and recommendations are contained in Section V.

D. Assessment of Accounting Policies, Principles and Practices

GPO accounting principles and standards are generally in compliance with GAO Manual for Guidance of Federal Agencies, Title 2 -- Accounting. However, GPO regulations and procedures have not been revised to conform to GAO Guidelines for Accounting for Automatic Data Processing, issued in February 1978, and they do not reflect GAO guidance on accounting for purchase discounts. This variance is described below.

GPO procedures and practices do not in some instances constitute an effective implementation of GAO/GPO accounting principles and standards. Such shortcomings are particularly significant in the area of accounting systems modernization and documentation (Subsection B) and in financial information provided agency management (Subsection C). The system for accrual of procured printing is not effective as a management tool. This is described in item 2 of this section.

An assessment of policies and practices relating to revolving fund working capital is contained in item 3 with recommended alternatives to enhance the financial management of the GPO and customer agencies, and to substantially reduce revolving fund working capital requirements.

The policy of accumulation of retained earnings is discussed in item 4. The final paragraphs of the section present comments on other accounting practices and recommendations for amendment of Title 44, and for accounting for Congressional appropriations on an accrual basis.

1. Accounting Treatment of Purchase Discounts

Current GPO practice is to record purchase discounts taken as revenue rather than as a reduction of costs. All discounts are recorded in the revolving fund. Two cost codes are provided for their classification:

9926 Discounts - Printing Procurement Operations
9985 Discounts - Materials Operations

GAO guidance requires that purchase discounts be accounted for as a reduction of cost of property acquired rather than as revenue. Paragraph 12.5(d) of Title 2 stipulates the following treatment for purchase discounts on purchased property:

> "In determining cost of purchased property, discounts shall be deducted from the prices billed. Such discounts are reductions of costs, representing savings achieved through payments of bills within the vendor's stipulated time limits. They are

> not income and shall not be accounted for as such, since they do not produce an increase in assets based on the sale of goods or the performance of services. In determining the cost of purchased property, the amount to be recorded will be net of discount, whether or not the discount is taken."

Title 2 further provides that late payment penalties are a cost of operation and are to be established in a separate account in order to make management aware of them.

Recording purchase discounts as revenue rather than as a reduction of cost has the effect of recognizing the discount as revenue in the period in which the invoice is paid with the offset being an increase to costs in future periods when the purchased asset is consumed or expensed. For example, P.O. 8555 for the purchase of equipment (Four-Phase System) allowed a 2% discount for payment within 20 days. This invoice was paid on November 18, 1977 in the amount of $274,681 with equipment capitalized in the amount of $280,287 and $5,606 recorded as revenue. Thus, the gross cost of $280,287 will be charged to future operations through depreciation rather than the net cost of $274,681. The amounts of costs deferred to future periods through the capitalization of inventories and fixed assets at gross rather than net costs could not readily be determined, but such amounts may be substantial.

Since purchases for the Superintendent of Documents Salaries and Expenses Appropriation (S&E) are initially charged to and paid from the revolving fund with subsequent transfer of obligations to the S&E appropriation, the current accounting treatment of discounts may result in excessive charges to that appropriation.

It should be noted that procurement policy stipulates that vendors' offer of discounts are to be considered as a reduction in bid price for contract award, provided the time period specified for invoice payment is not less than 20 days from invoice date. Recognition of discounts taken on procured printing as a reduction of costs as stipulated by GAO guidance would conform accounting treatment to procurement policy. Statements of results of operation would then recognize purchase discounts as a reduction of costs rather than as nonoperating revenue. For example, the effect of recognizing purchase discounts as a reduction of costs would have the effect of reducing printing procurement operations costs. For the accounting period ending April 30, 1978, this would decrease cumulative fiscal-year-to-date costs of services performed by $886,649 and of increasing the Printing Procurement Operations Gain for the period from $1,530,161 to $2,416,810.

It is recommended that GPO policy be revised to conform to GAO guidance for accounting for purchase discounts. This will align GPO practice with that generally followed within the Federal Government.

2. Accrual of Procured Printing

The accounts payable system in which orders for procured printing are recorded (obligated) generates an automatic accrual on the specified delivery date. While this practice recognizes the desirability of recording accruals as performance occurs, it results in recording accrued expenditures/accounts payable on an estimated or forecast basis. Specified delivery dates on procured printing orders are not uniformly met by vendors. Printing procurement records reflected delinquent delivery dates ranging from 6-7% upward.

The accounting method of recording accruals on the delivery due date does not provide continued, systematic reporting of performance received, nor does it provide information to monitor for timeliness of delivery.

In view of the importance of timely delivery of procured printing to customer agencies, it is recommended that an alternative approach be developed for recording purchased printing accruals which will reflect performance and provide the necessary information for monitoring the timeliness of delivery.

3. Revolving Fund Working Capital

Three of the major elements of working capital of the revolving fund are work-in-process, finished work and accounts receivable. The following table shows the working capital investment in these elements at April 30, 1978.

Three Major Elements of Working Capital

	($ Million)
Work-in-Process (in-plant work at standard value and commercially procured printing for which the accrual has been recorded)	$ 86.
Finished Work (unbilled in-plant and procured printing job jackets)	39.
Accounts Receivable	48.
Total	$173.

There are other elements of working capital such as material inventories. However, the purpose of this discussion is to show how these three elements relate to the average monthly volume of activity, and to propose for consideration some alternative policies and procedures through which the revolving fund working capital requirements could be substantially reduced.

The value of printing and binding operations and procured printing approximates $42 million per month. With this volume of activity, the capital investment in these three major elements represents four months' activity. The average day's activity represented by each element is represented as follows:

	$ Million	Approximate Days Level
Work-in-Process	$ 86.	60
Finished Work	39.	30
Accounts Receivable	48.	30
Totals	$173.	120

The following paragraphs describe alternatives to present policies and practices which would substantially reduce the capital investment in each of these major elements.

a. Work-in-Process

Job charges for in-house and Congressional work remain in work-in-process (WIP) until the job is completed and sufficient time has elapsed for all job charges to flow through for recording in the

WIP system. Commercial printing jackets costs are recorded in the WIP system when the vendor's invoice is paid. These current practices for transferring the value of completed work from work-in-process to finished work probably represent 5 to 10 days of this account activity level.

Another factor contributing to the present 60-day WIP level is the fact that many of the jacket numbers in work-in-process remain open for extended periods of time. The elapsed time from the date work is begun on an order for Congress or for Executive agencies may extend over several months, and in some cases, years. Numerous open jackets (not billed) at April 30, 1978 reflect no recent activity (charges for work). An example of these is shown in the tabulation which follows:

Jacket No.	Total Charges	Dates of Charges	
		First	Last
223117	$51,129	11/10/76	05/19/77
221621	41,506	10/28/76	12/27/77
549403	59,878	06/03/74	10/05/76
549782	49,620	06/12/74	04/15/76
551898	51,190	06/28/74	12/22/75
578017	67,192	07/28/75	08/03/77

Two suggestions are offered to reduce the level of working capital in work-in-process:

- Provide for progress billings, not less frequently than quarterly, for cost incurred for all jobs for which completion will exceed three months.

- Improve procedures for monitoring open jackets to assure timely closeout of completed jobs for billing.

It is noted that Title 44 provides for expiration of the Public Printer's authority to act on orders; applicable sections are:

- 507. Orders for printing to be acted upon within one year.
- 718. Lapse of authority to print.

b. Finished Work

The finished work inventory is made up of completed jobs which have been closed out of the WIP system, and are in process of review for billing. This includes both those jobs which are based on actual charges determined after the work is completed and those for which a fixed price is agreed upon in advance. The review process includes examination of the job cost record generated by the WIP system and the job jacket to ascertain that all appropriate charges have been recorded, and to allocate job charges for rider jackets (production for customers other than the ordering activity).

The elapsed time taken to complete the review and adjustment of various types of jackets for billing varies considerably, dependent upon the complexity of the jacket costs. At the time of our review of this process, an effort was underway to reduce the elapsed time to complete the billing process.

The alternative billing policy proposed in Section IV would largely eliminate the working capital investment in finished work. Most work could be automatically billed upon completion of the job (shipped from Central Office or vendor) at the established firm price determined in advance of production.

c. Accounts Receivable

Unpaid billings to agencies have, on the average, approximated two months of billings. This level has been significantly reduced since March 1, 1978 when GPO implemented the Treasury system for Simplified Intragovernmental Billing and Collection (SIBAC) for most civil agencies. The extension of this system to DOD activities as proposed earlier would significantly further reduce the average day's level of receivables and of the revolving fund working capital investment.

d. Summary of Alternatives Proposed

The proposed alternatives to present policies and practices can be summarized as follows:

- Bill customers at a firm price determined prior to production, price to be based on standard cost rates or factors for all elements of job cost, and price to be adjusted only for those changes made by customer after job is in production. For procured printing, price to be based on estimated amount of print order, purchase order or contract.
- Bill customers not less frequently than quarterly for progress payments for production costs incurred on jobs for which completion will normally exceed a three-month period.
- Automatically generate customer billings, to the maximum extent feasible, upon completion of the job -- bypassing the finished work stage.
- Extend the application of simplified billing and collection procedures to all Government accounts to the maximum extent possible.

The benefits to be realized by GPO through adoption of these changes include:

- Reduction of revolving fund working capital requirements of $50 to $80 million. The basis for this estimate follows:
    - The current (April 30, 1978) working capital requirement for work-in-progress, finished work, and accounts receivable is $173 million. This represents approximately 4-month or 120-day activity level for the current average monthly printing production and procurement activity ($42 million).
    - Adoption and implementation of the proposed alternatives should reduce the average day's level for each of the three elements as follows:

	Average Day's Activity Level		
		Proposed	
Element	Current (30 April, 1978)	Minimum Achievable	Optimum Achievable
Work-in-Progress	60	50	45
Finished Work	30	10	5
Accounts Receivable	30	20	10
Total Day's Level	120	80	60
Total Working Capital Represented ($ Million)	$173.	$115.	$87.

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    - As shown in the above table, the estimated minimum achievable reduction is projected at 40 days (current level of 120 days less minimum achievable level estimated at 80 days) or one-third of the present period. This represents working capital of 1/3 of $173 million or a potential reduction of $58 million. Achieving the optimum projected level of 60 days would further reduce the working capital requirement.
- Change focus of management's attention from emphasis on cost recovery to production and cost variances from standards, and provide stronger incentives for cost control.

- Simplify GPO billing processes and reduce workload. The workload in the billing and collection process would be greatly reduced. This would be offset in part by increased workload for preparation of firm price estimates and for analysis of variances.

Significant benefits accruing to customer agencies include:

- Improved financial management processes through timely receipt from GPO of firm estimates for budget and cost control purposes.
- Reduction of the workload incident to delayed receipt of invoices for services, administering and processing obligation adjustments, vouchering and disbursing payments for invoices.

Internal GPO units are also customers of GPO printing and binding production and procured commercial printing, and likewise would benefit from the alternative policies proposed. For example, the Superintendent of Documents is billed for general sales publications purchased. Sales prices of publications are established and revised based on the cost of these publications to Superintendent of Documents, inventory valuations (cost) are determined, etc. GPO estimated that at September 30, 1977, $1.9 million of publications had been received into inventory for which bills had not been prepared and recorded in accounting systems. This estimate was based on extensive sampling of physical inventory counts, examination of invoices dated subsequent to September 30, 1977, and other procedures. The amount of $1.9 million represents 6+ weeks receipts of general sales publications purchases, based on the total fiscal year purchases. For the revolving fund this represents a 6-week lag from completion of production (or delivery by vendor) to completion of

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customer billings. Improvements currently being made in the billing system should reduce this time lag. However, it is evident that management of the Superintendent of Documents general sales publications activity as well as other customer agencies activities would still benefit from the alternatives proposed.

4. Investment of the U.S. Government

The investment of the U.S. Government in the revolving fund consists of capital, retained earnings, and income from the sale of publications payable to the U.S. Treasury. Retained earnings represent the net difference between charges to Congressional and other GPO customers and the cost to the GPO revolving fund of providing those services. The Government's investment derived from retained earnings since 1953 (the date of inception of the revolving fund) to September 30, 1977 was $58.5 million. The amount of retained earnings for the fiscal years 1975-1977 was $17.0 million.

Generally; the purpose and objectives of the use of the revolving fund technique for financing a continuing cycle of operations is to "break even" -- neither accumulating substantial amounts of retained earnings, nor impairing the capital provided for the fund operation through operating losses. Revolving fund revenues and expenses for each operating period or fiscal year are generally not brought into alignment. However, for the longer term, the goal of "break even" is approached through adjustment of rates, prices, and surcharges so that cumulative retained earnings or losses are minimal.

Techniques employed for financing new equipment acquisitions and working capital for Intragovernmental Revolving Funds include the appropriation of Budget Authority, the assessment of additional charges to users to cover increased cost of equipment replacement, cash advances from customer agencies, and other financing arrangements.

Our recommendation is predicated on the financing policy reflected in Title 44 and the Legislative Branch section of the President's Budget as approved by Congress. Key points follow:

- Section 309(b) of Title 44 states that "The fund shall be: (1) reimbursed for the cost of all services and supplies furnished, including those furnished other appropriations of the Government Printing Office, at rates which include charges for overhead and related expenses, depreciation of plant buildings and appurtenances, except building structures and land, and equipment, and accrued leave."
- The GPO Revolving Fund Printing and Binding total revenues and expenses have been budgeted for "break even" for the fiscal years 1971-1977.
- The GPO Revolving Fund was provided new Budget Authority (appropriations) of $44.9 million during the fiscal year 1971-1975 period for the acquisition of equipment and for additional working capital.
- The Government's investment in the GPO Revolving Fund increased each fiscal year from retained earnings during the period in which new Budget Authority was provided as well as in subsequent fiscal years.

An alternative to budgeting for GPO Revolving Fund operations on a "break even" basis and requesting new budget authority for increased capital requirements is to budget for additional charges (revenue) and net income from operations to finance additional capital requirements. Revenue budgeted to cover increased cost of equipment replacement or for other purposes should be specifically identified in the budget in order that complete program financing information be submitted in the budget for Congressional review and approval. Full disclosure of planned program financing is considered essential for sound planning and for the Joint Committee on Printing Committee's discharge of its oversight function (reference: Comptroller General Report to the House Budget Committee, Revolving Funds: Full Disclosure Needed For Better Congressional Control, PAD-77-25, August 30, 1977).

Our recommendation is that operating policy reflect the financing policy expressed in the approved budget and in Title 44.

5. Other Accounting Practices

a. Intraoffice Transactions

All accruals and disbursements for the Superintendant of Document's activities are initially entered in the Revolving Fund -- Printing and Binding accounts with transfer of costs to the Superintendant of Documents Salaries and Expenses appropriation through intraoffice accounts. Subsequently, costs of the general sales publications activity are transferred back from the S&E appropriation to the Revolving Fund -- General Sales accounts.

The accounting procedure results in recording additional transactions and in the maintenance of additional records for control and reporting purposes. Further, the audit trail of transaction to report, and from report amount to original transaction source, is cumbersome.

The generally preferred method of recording accruals and disbursements is to distribute these to the applicable fund accounts at the time the initial transaction is recorded. In those instances in which the applicable account is not ascertainable at the time the transaction is recorded, the charge is placed in a clearing account pending determination of the appropriate fund(s) and account(s).

b. Accounting for Publications Received without Charge

Publications received by the Superintendent of Documents without charge for general sales publications inventory from the Government Printing Office and from Government agencies (44 U.S.C. 1702, 1720, 1721) are capitalized at the calculated cost value with the amount applied as a reduction of the current period cost of sales. For the period October 1, 1977 to April 30, 1978, this amounted to a net total of $315,418.

This accounting treatment of publications received without charge has the effect of overstating inventory and net income from current period operations. It is therefore recommended that the offsetting credit for publications received without charge from Government agencies be recorded as an increase to the investment of the United States Government (2 GAO 14.4).

c. Accounting for Variances

GPO accounting policy for pricing of the paper and envelopes inventory is to use a cost method based on a moving average adjusted quarterly to reflect current prices. Differences between actual cost and the adjusted moving average price are accounted for as increases or decreases to the cost of services performed on a monthly basis.

The generally preferred method for accounting in Governmental and commercial activities which require purchase of large amounts of material is to separately identify such purchase price variances in the accounts for reporting and control purposes. Refer to Section IV for a comparison of GPO practices with industry, and to Section V for recommendations concerning accounting system revision.

6. Title 44 U.S.C. 1708

Public Law 95-94, August 5, 1977 amended 44 U.S.C. 1708 to provide for financing the expenses incurred in connection with the sale of general sales publications from the receipts for these sales. Previously, funds were provided for the expenses in connection with the sale of these publications in the appropriation for Superintendent of Documents Salaries and Expenses. As previously provided, the revenue in excess of costs of publications sold were to be deposited in the Treasury to the credit of miscellaneous receipts. As now provided, the revenue in excess of the cost of publications sold and expenses incurred in connection with the sale of general sales publications are to be deposited to the Treasury miscellaneous receipts account.

The above changes had the effect of transferring all funded costs for the General Sales Program to the revolving fund, to be recovered from sales revenues. In addition to the determination and recovery of funded costs from the sales of services or property outside the Government, unfunded costs are to be determined, if significant. Nonfunded costs of the general sales publications program include the cost of depreciation on GPO facilities and equipment financed by appropriations, and the cost of interest [GAO Title 2, para. 16.8(e)].

Alternatives for consideration include:

- Capitalize equipment procured by the S&E appropriation for operation of the General Sales Program into the revolving fund, thereby making provision for treating these costs as funded costs. (May require amendment of Title 44, U.S.C. 309.)
- Amend Title 44 U.S.C. 1708 to provide that a fixed percentage (e.g., 10%) of the receipts from general sales of publications to non-Federal activities be deposited in the Treasury of the United States to the credit of miscellaneous receipts, to provide for recovery to the United States of nonfunded costs. Alternatively, such percentage could be determined annually by the Public Printer and/or GAO.
- Amend Title 44 U.S.C. 1708 to provide that the price at which documents are offered for sale by the Superintendent of documents will be based on the cost of publications, general sales expense in connection with the sale of publications, and a fixed percentage, if determined applicable for the recovery of nonfunded costs or other purposes. The provision relating to price determination "shall be based on the cost as determined by the Public Printer plus 50 percent." would no longer be applicable, and deletion is recommended.

7. Accounting for Congressional Appropriations

Accounts are maintained on a cash basis for the appropriations for Congressional Printing and Binding. Cash basis accounting and reporting limits the usefulness of financial reporting for management use for control and for budget estimating purposes.

During the first year of the appropriation, obligations are recorded in the accounts only as payments are made. For example, as of April 30, 1978, the trial balance reflected obligations and payments of $17.6 million for the FY 1978 Congressional Printing and Binding appropriation of $71.7 million. This method of accounting does not reflect performance or the work accomplished by the GPO revolving fund for Congress during this seven-month period for which billing and payment had not been made. It is noted that some of the jobs remain open (in process) for extended periods of time. Open and unbilled job orders represent substantial amounts. Such amounts are readily ascertainable from the current revolving fund records.

We recommended that provision be made for recording and reporting accruals for those appropriations not less frequently than quarterly. Accruals for these appropriations are evidenced by work-in-process and finished work inventory (completed but unbilled jackets) job records in current revolving fund accounting systems.

IV. INDUSTRY PRACTICES - A COMPARISON

The purpose of this section of the report is twofold:

- To identify the cost recovery and pricing formulae and methods in the commercial printing, publishing, and distributing industry.
- To compare those formulae and methods with those currently employed by GPO.

The comparison will be developed by briefly reviewing GPO formulae and methods for valuing and accounting for the various elements of costs and prices and then comparing them to the related practices in commercial printing, publishing, and distributing concerns. It is noted that GPO contends that any comparison between a large multi-faceted job shop like GPO with small job shops or large specialty houses is inappropriate. Considering the limited scope of this study and the level of detail of the comparisons, we have to disagree.

A. Product Costing

For product costing, GPO accumulates costs against a series of several hundred "operations" and "classes" (a subdivision of the more general operations). Examples of operations and classes used are make-up (proofreading, etc.), composition, platemaking, presswork, bindery (banding, folding, cutting, etc.). The method by which these costs are accumulated in, or applied to, operations and classes is a "predetermined," as opposed to a standard rate. This rate is calculated and periodically updated by accumulating all actual costs incurred in an operation (excluding overtime premiums, night differentials, special security services and direct materials), adjusting for anticipated pay (cost) increases, and dividing the total by the total labor hours or machine hours accumulated during the period. The all-inclusive rate thus determined is multiplied by the hours (labor or machine) charged to an operation and the costs of the various operations are added to obtain the total product cost. Materials are charged directly to the product. The overtime, night differential, and special security costs are accumulated by production areas (cost centers) and recovered by the application of a surcharge to products that necessitate the incurrence of those costs.

To summarize the basic GPO product costing methodology:

- The cost objects are a series of operations and classes within a jacket or product.
- The elements of direct labor (including all fringes), indirect labor, and overhead (supplies, rent, depreciation, etc.) are applied to operations and classes and thereby to products by means of a predetermined hourly rate.
- Materials are charged directly to the product.
- Overtime premiums, night differentials and security services are recovered through a surcharge applied to specific work.

Most firms in the printing, publishing and distributing industry, if they employ any form of cost accounting at all, utilize a job order cost system in which an estimate (standard) is compiled for each order going through the plant. More sophisticated systems will require an estimate for each uniquely identifiable operation in the production process. The estimate will generally segregate material and labor expenses. The estimates by operation are usually developed using factors for cost and productivity/efficiency. The cost factors are derived using known data (contract labor rates, material contracts, etc.). The productivity factors are usually derived from historical data on production capacities of machines, personnel, or subcontractors.

Engineered cost standards are not widely used in the industry because of the preponderance of small firms which do not possess the economic foundation to justify an engineering/time study department. Some firms have utilized external consultants to formulate standards, but unless the standards are continually reviewed and updated as necessary, the effectiveness of the standards will usually diminish over time as the marketplace, labor rates, machinery configuration, etc., change.

Direct labor expenses are usually charged to the job at a rate which reflects the wage expense plus fringe benefits. Some firms do not include direct labor fringes as part of the rate for direct labor claiming that all fringes are overhead. We believe the predominant philosophy to be one in which the rate reflects the direct hourly wage plus attendant fringe benefits. The estimate/standard rate is then composed by taking into account for each operation:

- Crew complement by classification (journeyman, assistant, helper, etc.).
- The standard hourly rate by classification.
- The time required to produce the quantity required.

This approach is seen as an advantage over the GPO practice of utilizing an all-inclusive rate in that it provides the capability to analyze both labor rates (hourly cost by classification and/or classification mix) and labor efficiency (number of hours applied by classification). The variance information thus derived can serve as a primary management control device in measuring and evaluating performance.

By consolidating all costs into an all-inclusive rate, GPO loses the ability to conduct meaningful analyses of the labor variances indicated above as well as other variances in material prices and usage or various elements of overhead, i.e., variances in costs of engineering services, rents, indirect labor, supplies, spoilage, etc.

Materials are generally charged directly to the job if they are specially ordered for the job. Any excess materials are either returned to the raw materials inventory at no value or are discarded. Materials which are drawn from a stock inventory position are generally charged to the job based upon actual consumption. Since so much of this industry's production is "special order" work it is uncommon to see much raw material inventory maintained; most materials are specially ordered. Miscellaneous material items (i.e., thread, crepe, staples, etc.) are often expensed as purchased and not charged to any given job order. The inventory value of these materials is adjusted with each physical inventory with any difference charged or credited to Cost of Goods Sold in the period. This is comparable to the methods employed by GPO.

labor-related expenditures, are factored into the overall direct labor rate. The effect of the latter option is to smooth these anticipated expenditures by having each job pick up a portion of them throughout the period. However, this can unfairly penalize those jobs which incur none of these expenditures. The favored method is to charge extraordinary expenditures directly to the jobs for which they are incurred. This procedure is comparable to the GPO practice of recovering the expenses with the "rush" surcharge.

Overhead items are allocated to individual jobs usually as a percentage of the direct labor charged. The least sophisticated systems will apply this rate as one percentage to all direct labor charged to the job. The most sophisticated systems may apply this overhead rate as a percentage of labor or machine hours on an operation-by-operation basis. Thus each job is charged with a standard indirect charge based upon direct labor expended. The indirect or overhead actually incurred is accumulated in indirect cost centers and compared to the standard indirect cost applied and the variance is closed to cost of sales.

GPO also accumulates indirect costs in specified cost centers and manually allocates these costs to production cost centers and into the all-inclusive rate on the basis of numbers of personnel or square footage occupied. Because of its absorption into the all-inclusive rate, no direct comparison of applied and actual indirect costs can be made in the cost system. However, in the budget process indirect cost center managers must monitor and control their budgets and thus provide some degree of control of these costs at other than the product level.

The bases for applying costs to products appear to be predominantly dollarized labor or machine hours. Often the machine hours will be multiplied by the standard hourly labor rate per machine hour for the operation, and this dollar amount will serve as the base for the allocation. Labor hours are often converted to dollars and the allocation factor is then applied. If there is one most commonly used approach, it would be to use machine hours times the cost of labor per machine hours for a capital-intensive cost center and labor hours times the cost of labor for a labor-intensive operation.

GPO utilizes essentially the same procedures in that the all-inclusive rate is determined and applied to products on the bases of labor hours or machine hours incurred.

B. Billing Practices

In billing clients, GPO uses two methods:

- The charges applied to the product, as discussed above, are billed directly to client agencies. In these cases only an estimate is provided up-front with the actual charges determined after the work is completed.
- A price is agreed upon in advance and this is what the customer is charged regardless of what the product actually cost to produce. This price is based upon a scale of prices for each operation and class. The scale itself is based on a recent predetermined hourly rate multiplied by the average time required to complete a particular operation (the average is determined by taking the last five years, dropping the high and low figures, and averaging the remaining three). This scale of prices is also used in the formula for pricing documents for sale through the GPO retail operation.

The billing method generally used in industry for "normal" production work is to render an estimate to the customer in advance of production and hold to that price. Often, this price is agreed upon in a contract which excludes adjustments without the consent of both parties. In cases in which the job is of a rare or technically complex nature, an agreement may be reached whereby an estimate will be adjusted to actual when all costs are known. Under the first method, progress bills are sometimes rendered the customer:

- After the procurement of special order materials.
- After the press work is complete.
- After the goods are produced but not yet shipped.

We believe that a shift in emphasis in GPO from the practice of billing actual costs after the fact to the practice of establishing a firm price in advance of production would have the following beneficial effects:

- It would improve the billing and collection process of both GPO and client agencies by:
  - Speeding up the billing cycle.
  - Improving the timeliness of the commitment, obligation and expenditure process for the client agency.
  - Simplifying the GPO billing process and thereby reducing its workload.
- It would provide a stronger motivation for effective cost control since inefficiencies and waste are reflected as actual losses. Currently, in most cases, GPO may provide an estimate to an agency for information purposes but ultimately charges whatever costs were incurred. This should be the exception rather than the rule.

C. Cost Control

For purposes of cost control, as opposed to product costing, the GPO accumulates actual costs incurred by cost center, allocates the indirect cost center costs to productive cost centers and compares the total to the "value" of services performed in the productive cost center. "Value" is the amount of charges to products at the predetermined rate as previously discussed. No other comparisons of actual versus standard or budgeted hours, costs, etc., are attempted.

The industry practice for cost control and variance analysis varies in direct proportion to the sophistication of the industry members which, on the average, are smaller firms lacking complexity. Those firms more in control of their operations will measure most, if not all, of the following variances:

- Labor productivity.
- Labor rate.
- Labor complement.
- Material purchase price.
- Material spoilage variance.
- Overhead spending variance.
- Overhead efficiency variance.

These variances are computed for each department or cost center on a job-by-job basis. At the conclusion of a job the accumulated actual costs of production are compared to the standard costs to determine a "profitability variance" for the product.

D. Retail Sales

The current method of pricing SU/DOC publications basically involves a formula which is composed of the following elements:

- Printing and binding costs: estimates based on scale of prices discussed in Section B above.
- Materials costs estimates.
- A reprint factor based on historical statistics.
- Fixed costs which are the budgeted costs for the retail operation for the year allocated among the categories of publications and divided by the expected sales volume in each category.
- An arbitrary percentage factor (currently 6%) for unsaleable publications.
- A 50% "profit" factor or factor to offset such things as the 25% dealer discount.
- An estimated postage charge based on an estimated weight for various categories and sizes of publications.

The more sophisticated firms in the private sector will usually construct their prices on the basis of 1,000 books, in a manner similar to the following:

- Quantity to be produced, material requirements by type, signature make-up, plating, binding, etc., are listed on a specification sheet.
- Presswork estimates are assembled covering labor material.
- Bindery estimates are assembled by operation to be performed.
- Miscellaneous materials are computed and priced.
- Labor costs are totaled and the overhead factor is applied.
- Material costs are totaled and a spoilage factor is added.

- Total costs are assembled and then marked up to cover selling and general administrative costs.
- The grand total of all costs is then marked up with a profit factor.

Cost factors of specific interest for comparison with GPO practices are handled as follows:

- Postage is added to the selling price on a per order basis.
- Spoilage costs are figured as a percentage over the desired quantity. For instance, if 100,000 copies are required, paper may be ordered for 120,000 to allow for waste.
- Unsaleables are different since most production is on a per order basis as opposed to an inventory position; thus the unsaleable situation does not exist for the majority of firms.
- Distribution costs are generally not built in to the cost of a book, but are added onto the selling price. To incorporate distribution costs into the product cost structure prior to sale would result in these costs being inventoried. Since distribution costs are not part of the cost of production, it is generally accepted that they not be inventoried but rather expensed in the period incurred.
- Advertising and promotion costs are usually added to the cost of a product via a factor which apportions the budget for selling and general administrative (SG&A) expenses. Specific products for which unusual or excessive SG&A costs are incurred may have these costs charged directly to them as opposed to any method of allocation.
- Returns, like unsaleables, are not a consideration for the majority of industry members. Those that do produce and sell from an inventory position will generally use historical data as a basis for estimating unsableables/returns and will incorporate this estimate into their pricing structure so that those books/products which are sold recover direct and indirect costs, returns, unsaleables and profit.
- Profits are usually computed through a straight mark-up after all costs incurred, and any charges to be recovered are considered. The amount of the mark-up can vary considerably (5-40+%) based on the product, the marketplace, the customer, etc.

E. Inventory

GPO, being both a manufacturing and retail operation, in effect has two inventory pools:

- The manufacturing inventory is carried at the predetermined cost, i.e., work-in-process is charged at the operation and class totals accumulated for product costing purposes. Any variances are merely written off against the revolving fund balance.
- The retail inventory is carried at sales value (sales price determined as indicated above multiplied by volume of documents). Once a year the inventory is adjusted to cost using a variation of the "retail inventory method." For financial statements at all other times, the inventory and "costs of publications sold" are based on an estimated percentage of sales as are the figures for unsaleable publications.

In private industry, work in process and finished goods inventories are carried at standard costs, and all variances between actual and standard are closed to cost of sales in the period. The inventories are then adjusted to the lower of cost or market. The general practice utilized by industry to accomplish this valuation includes techniques for determining the appropriate life of retail inventories items by treating them on an individual basis to evaluate turnover and to track that turnover as the basis for valuation.

The GPO methodology of utilizing inventory value based on estimated percentage of sales has an inherent imprecision since the sales base in total can change from year to year, thus distorting the portion of the total sales related to a particular document. However, we do not feel that it is essential for the GPO to adopt the item-by-item approach used by industry.

V. SUMMARY OF FINANCIAL MANAGEMENT AND ACCOUNTING OBSERVATIONS AND RECOMMENDATIONS

The purpose of this section of the report is to summarize issues and problems identified by the C&L study team in its survey and to present recommendations for improvement.

A. Cost Accounting

The process of formulating and monitoring the all-inclusive rate is a labor intensive manual operation which fails to make effective use of existing computer technology, i.e., manual posting of hour cost books for each operation/class on the basis of reports developed in another office from other computer output. This duplication of effort and borrowing of computer runs so that the data can be reposted to the hour cost books is outdated, time consuming, excessively labor Intensive and of questionable value for analytical purposes.

There is a need for greater use of standard rates and unit cost targets. The all-inclusive rate is not effective in monitoring the responsibility/productivity of a cost center or in promoting effective cost consciousness. The existing system cannot readily determine if a cost center has been both efficient and effective. There is a need for comparison of actual vs. standard cost of all primary cost elements, i.e., labor, materials, overhead.

- Recommendations: GPO should consider automation of cost accounting as an alternative to the highly labor intensive bookkeeping process. Furthermore:

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- GPO should adopt standard costing methodology to replace the continuous calculation and updating of the all-inclusive rate. Such standards could be adjusted annually to maintain the revolving fund balance without the need for continuous interim monitoring.
- More resources should be devoted to the analysis of variances in labor, rates and efficiency; materials, prices, and usage; and overhead, volume and rates rather than the current effort of recording all costs incurred and then calculating an all-inclusive rate.
- Cost managers should become involved in the determination of standard rates and held strictly accountable for those costs under their control.

- Anticipated Benefits: Automation and the introduction of standard costs that are adjusted only to maintain the revolving fund principal will significantly reduce existing workload. Also the need to maintain costs at or below standard and the resources that would be made available for variance analyses would promote more efficient operations.

B. Pricing Formula

Reprint & unsaleable charges are based on estimates or percentage totals that are projected during the year. The Superintendent of Documents does not collect or provide adequate information on actual charges for accurate evaluation of currently applied rates. Additionally provides an outlet to spread overhead costs, not directly related to the production and sale of a publication. Again the problem here is that the Superintendent of Documents does not provide adequate information on unit handling costs or sales volume. The pricing committee must estimate how many documents will be sold in order to calculate a unit fixed cost for each publication. Thus if the estimates for fixed costs or volume are not correct, total fixed costs will not be recovered.

- Recommendations: More effort should be devoted to tracking and estimating delivery costs, sales volumes, fixed costs, reprint and unsaleable charges; incentives should be established to encourage manipulation/control of both segments of "profit" formula, i.e., revenues (prices and volumes) as well as costs; and certain staffing levels/costs should be tied directly to sales volumes.

- Anticipated Benefits: More accurate data on sales volume fixed costs, etc., would lead to more accurate price setting and the prevention of loss situations. Rigorous control of program costs, especially the fixed administrative or handling costs, would assist in holding prices down and enhance wider distribution of publications.

C. Billing Procedures

Each bill (jacket summary) is reviewed by a specialist. This summary can be altered, adjusted or corrected manually before the customer is billed. There is no direct tie-in with a computer system and prices are all computed manually. This means there is an overly complicated, labor intensive process for analyzing jacket summaries, determining rider charges, etc.

- Recommendations: The policy and procedures for billing customers should be revised to base all bills on standard cost rates and factors. For jobs to be produced in-house, prepare a firm billing estimate upon receipt of customer order:
    - Estimate to be based on production and material standards and schedules of prices/rates for all services including transportation.
    - Billing estimate to be furnished customer for use in fund administration and budgeting.
    - Billing estimate to be adjusted only for those changes made by customer after the job is placed in production, with advice of revised billing estimate to be furnished to customer.

For jobs to be commercially procured, base firm billing estimate on the estimated or firm amount of the print order or other procurement document:

- Estimate to be based on net amount of the procurement (estimated or firm amount less discount) plus applicable surcharges.

- Billing estimate to be furnished to customer for use in fund administration and budgeting, and to be adjusted only for changes made by customer after order is placed.

An alternative billing method should be provided for Congressional and other jobs for which work is received over time and for which production requirements cannot be ascertained at the point initial work is accepted. Billing estimate for such work to be incrementally determined, and to be based on production and material standards and schedules of prices/rates applicable for all work.

Provision should be made for progress payment billing for those jobs for which completion will normally exceed a three-month period. Also customer billings should be generated from the Work-in-Process ADP system immediately upon completion of the job, to the maximum extent feasible, thereby bypassing the finished work stage.

The application of the Simplified Intra-Governmental Billing and Collection (SIBAC) System should be extended to billings for the Department of Defense services and agencies and for Superintendent of Documents publications sales to governmental activities.

. Anticipated Benefits: The benefits to be realized by GPO through adoption of the foregoing recommendations for revision of billing practices include:

- Reduction of revolving fund working capital requirements of $50 to $80 million.

- Change in the focus of management's attention from emphasis on cost recovery to production and cost variances from standards, as well as improving productivity.

- Simplification of the GPO billing processes and reduction of workload.

Major benefits accruing to customer agencies from the proposed revision in billing practices include:

- Improved financial management of printing resources through the timely receipt of firm estimates for budget and cost control purposes.

- Reduction of workload arising from delayed receipt of invoices for services, processing of obligation adjustments for prior periods, vouchering and disbursing payments for invoices.

The recommended changes in billing practices would likewise benefit internal GPO activities. Timely billing of charges to the Superintendent of Documents programs would materially improve the validity and usefulness of financial reports, would facilitate timely adjustment of sales prices and accounting for the sales publications inventory. The implementation of the proposed revision to billing practices will require certain modification and improvement of accounting systems and reporting capabilities.

D. Surcharges

The surcharges currently in effect are in excess of the expenses they are designed to recover. However, part of the excess is absorbed by inefficiencies in the recovery of other operating costs. This is especially true of nearly all Congressional work which is assessed a surcharge whether or not additional costs are incurred in the production of that job.

- Recommendations: Surcharges should be reduced to reflect the costs they are designed to recover and other methods utilized to discourage the need for "rush" work.
- Anticipated Benefits: Application of surcharges to those jobs which generate excess costs would allocate costs and charges more equitably. Limiting the use of surcharges to recover only the expenses they are designed to recover should facilitate disclosure of inefficiencies in the recovery of other operating costs, and aid GPO in their remedy.

E. Financial Reporting

The existing accounting system severely limits effective financial reporting for internal management purposes. Most reports are manually prepared from worksheets and journal entries in various

FMS offices. Specific improvements that are considered desirable are discussed in Section III of this part. They include both requirements specified by GAO and GPO directives as well as format and structure changes to improve their value to the users.

- Recommendation: Financial system reporting capabilities should be revised and expanded to effectively support management decision making and control processes. This encompasses development of the following types of reports and reporting capabilities:

  - Operating reports which reflect operating costs and revenues in comparison with operating budgets, with reporting and analysis of variances for all operating and program managers.
  - Operating reports which relate actual costs to standards and work measurements used in management systems.
  - Financial reports which provide information on unit costs.
  - Data reporting systems capable of producing reports needed for financial analysis, evaluation and management of receivables, inventories, revenues, costs, rates, etc.
  - Data reporting systems capable of integration with GPO management information and control system(s).
  - Financial reports for the various segments of GPO which are income-producing activities. Such reports to include all elements of revenue and cost, and net operating results for each segment or unit, with consolidations for like type activities such as bookstores, RPPOs, etc.
  - Reporting systems capable of producing reports on a more timely basis.

- Anticipated Benefits: The goal of financial reporting is usefulness to the officials requiring it. The improvements recommended above should increase the usefulness of financial data for planning, in exercising control over resources, and in efficiently managing operations.

F. Accounting Systems

Relative to present day automation standards GPO accounting systems are generally labor-intensive, inefficient and unresponsive to user needs. Specifically these systems do not: provide comprehensive front-end edit capabilities, interact with files in related systems or update records, maintain history records on recurring payments, nor produce automatic payment listings. Furthermore, current accounting systems do not produce management notices and exception (variance) reports, facilitate reconciliations, provide for cost variance analyses, nor provide an inquiry capability.

- Recommendation: A fully integrated accounting system should be designed and implemented. Alternatives for improving and updating GPO accounting systems are to:

  - Continue to make improvements to individual accounting systems and components.

  - Design a new accounting system.

Recent system development efforts have been directed toward improving existing system automated components and processes, and toward automating manual processes. Continuation of this approach will provide some improvements in processing and control of accounting operations. However, such improvements will do relatively little toward making the system more responsive to users' needs for:

- Management information.

- Support of accounting operations.

An alternative approach for consideration is to design a new accounting system. This approach gives recognition to the fact that:

- Current systems have only limited capability of meeting the needs of GPO for management information.

- Modification of existing systems have a ripple effect on interface systems and will require continued maintenance.

- Systems are generally outdated and do not utilize available technology.

Objectives appropriate for a new accounting system include:

- Optimization of the extent to which accounting operations are supported by a computer-based system encompassing data entry direct from source documents with on-line transaction data edit/validation; single transaction entry for update of all system files; system generation of related transactions, adjustments and of management notices for follow-up decisions or actions; interaction or effective interface with other systems; production of automatic payment listings and of checks, etc.

- Satisfaction of the financial information needs of GPO for its operating and decision-making functions, through timely reporting and an on-call inquiry capability.

The design of a new fully integrated accounting system is strongly recommended.

- Anticipated Benefits: A fully integrated accounting system will improve management of GPO resources through up-to-date information for use in financial analysis and the control of operations, thereby improving response to user needs. Single entry of transactions at the earliest point in the accounting process, with concurrent updating of all system files, will eliminate the necessity for manual reconciliations between systems, substantially reduce workload, and improve accuracy and timeliness of financial data.

G. Financial Policies and Practices

Current GPO practice is to record purchase discounts taken as revenue rather than as a reduction of costs, and to report this revenue as nonoperating revenue.

- Recommendation: The policy stipulated by GAO Manual for Guidance of Federal Agencies, Title 2--Accounting, should be adopted by GPO for accounting for purchase discounts taken, and discounts lost should be recorded in a separate account to make management aware of this cost. This is considered the preferred accounting treatment for all Federal Government activities.

- Anticipated Benefit: Improved financial disclosure would assure management's awareness of any deficiencies in processing vendors' invoices, and thereby facilitate corrective action.

An account payable for a commercial printing order is recorded as of the specified delivery date shown on the order. This practice does not effectively reflect contractor performance. Printing procurement records reflected delinquent delivery dates ranging from 6-7% and upward.

- Recommendation: An alternative approach should be developed for recording purchased printing accruals/payables to reflect actual performance, and to serve as a basis for automatically generating customer billing.
- Anticipated Benefit: Recording performance received systematically would provide information to monitor the timeliness of delivery, improve the validity of financial data and serve as the basis for billing customers.

Currently, commercially procured printing accruals are not entered into the WIP automated accounting system until the vendor's invoice is paid. The time lag between vendor completion and delivery of work, preparation and mailing of invoice to GPO, GPO receipt of invoice, voucher examination and disbursement represents an average time lag of 3 to 6 weeks. Several additional weeks elapse on the average before the GPO customer is billed. Current procedure involves entry of the accrual in the WIP automated system after disbursement of vendor's bill, transfer of costs from WIP automated system to finished work, review of red jacket and WIP system jacket cost summary, preparation of manual input for automated system generation of billing, and verification of these processes.

- Recommendation: Accounting processes for billing customers for procured printing should be streamlined, with the billing based on the purchased printing accrual as recommended in the preceding paragraph.
- Anticipated Benefit: Customer billing would normally be accomplished before or at least by the time the vendor's bill is paid, thereby reducing GPO's financing requirements.

General sales publications received by the Superintendent of Documents without charge from the Government Printing Office and from Government agencies (44 U.S.C. 1702, 1720, 1721) are capitalized into inventory at the cost value with the offsetting credit applied to cost of sales. This has the accounting effect of reducing current period cost of sales and increasing the reported net income from general sales publications operations. For the period October 1, 1977 to April 30, 1978, the net amount of publications received without charge was $315,418.

- Recommendation: The accounting treatment for general sales publications received for inventory without charge should be revised to reflect the value of assets received without charge from agencies as an increase to the investment of the U. S. Government (2 GAO 14.4).
- Anticipated Benefit: The recommended change would conform accounting treatment of publications received without charge to GAO guidance.

Accruals and disbursements for the Superintendent of Documents activities are initially entered in revolving fund accounts with subsequent transfer of costs to the Superintendent of Documents

Salaries and Expenses (S&E) appropriation through intra-office accounts. Subsequently, costs of the general sales publications activity are transferred from the S&E appropriation to the revolving fund general sales publications accounts.

- Recommendation: This process should be simplified by distribution of charges and payments to the applicable fund account at the time the initial transaction is recorded, and a clearing account should be used in the S&E appropriation to record those transactions for which charges are to be distributed to two or more activities.
- Anticipated Benefit: The recommended change would facilitate reporting and account analysis for these activities.

GPO cash management efforts have been directed primarily toward the timely collection of receivables through implementation of the Simplified Intra-Governmental Billing and Collection (SIBAC) system and the reduction of jacket backlog in the finished work inventory awaiting review and billing.

- Other cash management actions recommended by the Comptroller General for improvement of Federal payment practices, which are considered appropriate for GPO adoption, include:
  - Establishment of procedures requiring bills to be scheduled for payment in accordance with the due dates, or the discount date.
  - Inclusion of payment terms, when practical, in each contract and purchase order. Payment terms would include both the starting point for computing the due date (for example, date of invoice) and the number of days allowed for payment.
- Recommendation: Cash management actions should be expanded to include those recommended by the Comptroller General as enumerated above.
- Anticipated Benefit: Improved cash management would reduce financing requirements to the minimum level in the GPO revolving fund.

The amount of the U. S. Government's investment in the GPO Revolving Fund since its inception in 1953 has been increased $58.5 million as of September 30, 1977 through accumulation of retained earnings. Retained earnings represent charges for Congressional and agency work in excess of the costs of that work. For the fiscal year period 1975-1977, the net increase was $17 million.

- Recommendation: A policy of "break even" should be adopted as the revolving fund profit objective. Operating policy would conform with the policy expressed in the annual business-type budget enacted by Congress through adjustment of rates, prices and surcharges to approximately match revenues with costs of operations on an annual basis.
- Anticipated Benefit: Charges to annual Congressional and agency appropriations would reflect the cost of services furnished.

H. Congressional

Public Law 95-94, August 5, 1977, amended 44 U.S.C. 1708 to provide for financing the expenses incurred in connection with the general sales of publications from the receipts of that program. Previously only the costs of publications had been financed from those receipts with the associated expense of sale borne by the Superintendent of Documents Salaries and Expenses appropriation.

- Recommendation: The basis for establishing the price at which publications are offered for sale to the public should be revised to reflect the change in costs to be recovered from sales revenues. The revised basis should provide that the price be established based on:
  - Cost of publications.
  - Expenses incurred in connection with general sales of publications.

- Other costs not funded by the revolving fund, such as depreciation and interest, if determined applicable for sales to the public, or a fixed percentage as determined appropriate.

The provision pertaining to basing the price on the "cost as determined by the Public Printer plus 50 percent" and the discount allowable for certain sales would be superseded by the revised basis for pricing documents.

. Anticipated Benefit: Revision of section 1708 would clarify the basis to be used by the Public Printer for establishing prices for general sales of publications.

Accounts are maintained on a cash basis for the appropriations for Congressional Printing and Binding and for Printing and Binding. Cash basis accounting and reporting limits the usefulness of financial reporting for administrative control of appropriations and for budget estimating purposes.

. Recommendation: The accrual basis of accounting should be adopted for all appropriations as prescribed by 31 U.S.C. 66 a(c) for executive agencies.

. Anticipated Benefit: Accrual basis accounting and reporting for Congressional appropriations would improve the usefulness of financial reporting for management use for control and for budget estimating purposes.

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PART THREE

TECHNOLOGY USE ASSESSMENT

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3-1	ADP SYSTEMS SUPPORTING THE SUPERINTENDENT OF DOCUMENTS	232

I. INTRODUCTION

The review of technology at GPO specified by JCP Project No. 101 encompassed three aspects, namely, the use of data processing technology, the use of production technology, and the use of micrographic technology. These topics are discussed in sequence in this part of the report.

The review of the use of automated data processing (ADP) technology includes hardware, software, and certain aspects of the personnel support this technology requires. Our review of production technology contains, first, a discussion of Central Office production requirements, followed by reviews of the offset, letterpress, and electronic photocomposition functions. This report concludes with a review of GPO's use of technology in micrographics. Our discussions include a review of the current status of micrographic work at GPO and some observations on other areas or strategies recommended for further study by GPO.

II. GPO COMPUTER HARDWARE AND SOFTWARE

A. Background

The Data Systems Service (DSS) is responsible for acquiring, operating, and maintaining the computer hardware and software used for automated applications by GPO. Within DSS, the responsible units for hardware and software are as follows:

- Data Center Division (DCD) - is responsible for operating, maintaining and scheduling the use of all computer systems within GPO. The only exception is the computers operated by Electronic Photocomposition Division.
- Technical Support Division (TSD) - is responsible for acquiring, installing and supporting all operating system and special systems software such as teleprocessing and data management systems (i.e., CICS, STAIRS). In addition, TSD develops technical specifications for hardware, software and service, and it procures hardware for DDS.
- Systems Analysis and Programming Division (SAPD) - is responsible for implementing approved systems on DSS systems. These activities include feasibility studies, general design, detailed design, programming, and preparation documentation.

The Data Center Division is responsible for operating and maintaining 4 major systems. The first is the IBM 370/145 and 158 systems which share common peripheral equipment such as printers, disk drives and tape drives. The second is the Burroughs 1700 system which supports on-line terminals for order entry in the Superintendent of Documents Office. The third is the Data Pathing computer which supports badge reader terminals for the PROBE System. The fourth is the Four Phase system used to support the Mail List system, SARABCS, and STAIRS.

In order to reduce the effects of on-line processing on the IBM mainframes, GPO uses minicomputers in a distributed network to support as many of the on-line applications as possible. Normally, the minicomputers support data entry applications with the resulting data being transferred to the mainframes for batch processing. This approach, along with the use of intelligent teleprocessing control units, has enabled GPO to maximize the use of its equipment in a teleprocessing environment as will be described in the following sections.

B. Computer Hardware

The Data Systems Service maintains the following configuration of IBM equipment:

- Central Processors

    IBM 370/145 - 2 megabytes
    IBM 370/158 - 4 megabytes

- Direct Access Storage Devices

    24 - Itel 7339 Disk Drives
    16 - IBM 2314 Disk Drives
    4 - STC 8350 Disk Drives
    6 - STC Disk Control Units

- Tape

    2 - STC Tape Control Units
    20 - STC 3470 Tape Drives

- Input/Output Devices

    1 - 3670 COMTEM Unit
    2 - 3505/3525 Card Reader Punch
    1 - 2955 Remote Analysis Unit
    1 - 2501 Card Reader
    1 - 1603 COM Unit
    3 - 3211 Printers
    1 - 3215 Console
    1 - 1023 Paper Tape Reader
    1 - 3213 Console
    120 - 3270 Terminals

The "370" systems are utilized extensively by GPO. A recently completed system usage study at GPO showed the 370/158 has an average Central Processing Unit (CPU) utilization of 75% during the first shift with peaks of 98% utilization during the morning and 90% during the afternoon. The 370/145 has an average CPU utilization of 65-80% during first shift with peaks to 97%. During the second and third shifts, the utilization is: 370/158, 45-60% second shift, 30% third shift; 370/145, 40-60% second shift, 20% third shift. These figures show that the CPUs are overloaded during the prime shift. Even though a machine is not fully utilized, it does not mean that more work can be added to the system in an on-line environment. The users of an on-line system must have adequate response time if the system is to be acceptable from their standpoint. In order to provide response time of less than 1.5 seconds, CPU utilization in the 50-75% range may be required.

The peak loads during the first shift occur when the on-line systems (TSO, CICS) are running. TSO accounts for 50% of the 370/145 utilization and CICS accounts for 25% of the 370/158 utilization. These figures exemplify the impact that on-line applications have on systems resources, since on-line applications require the availability of machine processing cycles, in order to provide adequate response time to the terminal users. While rescheduling large batch jobs would help in shifting the utilization percentages, the best that could be expected would be a temporary reprieve from the problem of machine saturation.

The present data automation plans call for 25 new on-line applications in the next five years. The projected number of additional terminals is over 300 for the same period of time. Based on these projections and the normal increase in batch processing which will occur because of increased volume, it is certain that GPO will need to increase its hardware capability in both the short and long term. And, indeed, GPO expects to upgrade the 370/145 to a 370/168, providing the additional processing capability to meet the increased machine requirements. This will be particularly important because the increase in on-line and data base applications will consume large amounts of computer resources, particularly in terms of CPU processing speed and disk storage requirements.

The DSS uses minicomputers in two ways. First, they are used in a distributed processing network. Second, they are used as intelligent remote terminal control units. The DPI and Burroughs systems (see Exhibit 3-1) are used in a distributed processing network, i.e., DDS can "off-load" many functions to stand alone. The minicomputers provide for editing of input data, file space for storing edited data, and telecommunication support for both input terminals and transmission to the host Central Processing Unit. These systems save the daily transactions and transmit to the host processor in "off-peak" hours for purposes of updating the master files and subsequent batch processing of the data. Such techniques reduce the load on the IBM 370 teleprocessing network by eliminating the need for the

Exhibit 3-1

ADP HARDWARE SUPPORTING THE SUPERINTENDENT OF DOCUMENTS

The systems used to support order entry applications in Superintendent of Documents are primarily Burroughs Corporation and consist of:

- 1 - 1724 Ce[illegible]al Processing Unit
- 1 - 9115 C[illegible]d Reader
- 1 - 9247 Line Printer
- 2 - 9499 Disk Drives
- 1 - 1495 Tape Control
- 2 - 9495 Tape Units
- 1 - 1352 Multiline Control
- 4 - 1650 ASCII Controllers
- 26 - TD831 Display Systems
- 8 - 833 Display Systems

The system that supports PROBE data collection is a product of the Data Pathing Corporation. Specifically, the equipment is:

- 2 - 150 Processor Units
- 1 - 3555 Line Printer
- 1 - 154 Disk Processor
- 1 - 1513 Disk Adaptor
- 1 - 4434 Disk
- 3 - 1507 Tape Drives
- 4 - 1304 A Terminals
- 4 - 3102 Displays
- 119 - Key Badge Terminals

The Four Phase configuration has 13 independent CPU's supporting remote terminals.

- 13 - CPU
- 1 - Tape Drive
- 18 - Printers
- 120 - Keyboard Terminals

host processor (370) to support more than 131 additional terminals. The result is more efficient scheduling of the host processor and reduced utilization during the peak load times.

From an applications standpoint, this concept is not "real time" processing since master files are updated in the evening and yesterday's information is the most current. For applications that require data files to be maintained in real time (i.e., Bulk Inventory File in SU/DOC, OMIS), this technique cannot be employed.

The Four Phase System (FPS) is used primarily as intelligent remote terminal control units. There are two functions of the FPS. First, the FPS receives and consolidates messages from the remote terminals and transmits these messages to the host processor. On the average each FPS receives messages from ten terminals and sends messages to the host on one telephone line. Second, the FPS receives messages from the host processor and distributes them to the appropriate terminal. This approach enables GPO to minimize the number of teleprocessing lines required to support the 120 terminals handled by the Four Phase System. In addition, this technique lends itself to real time applications, since transactions are transmitted to the host system within several seconds.

In summarizing DDS use of minicomputers, we feel that, to date, they have been used effectively. By using the distributed processing approach (i.e., Burroughs, Data Pathing), DDS has shifted major editing tasks from the host CPU to remote units. This approach has reduced the amount of processing required by the IBM system, and has helped to alleviate the utilization problems. In both the use of distributed processing and the use of intelligent remote TCUs, the number of telephone lines and the amount of processing required by the host for transaction handling have been minimized, therefore mitigating the over-utilization and reducing the overall teleprocessing network cost.

The most important benefit of the use of minicomputers is that DSS has been able to implement high payback applications which would not have been practical by using the resources of the central computer system. For example, the Order Entry System in SU/DOC has reduced the time required to process an order. It provides an interactive data entry capability which edits the data before it enters the system. This has reduced the number of errors which, in turn, has caused a reduction in the total time required to process orders. If the interactive system had not used a minicomputer, it could not have been implemented with the present IBM configuration since this application would have increased CPU utilization to the point where response times would have been unacceptable. By using the distributed processing approach, DSS was able to install a high-priority application which would not have been practical any other way.

The major difficulty with the use of minicomputers at GPO is that the use of a distributed processing approach does not lend itself to real time applications. While this is not a problem in and of itself, it does affect an integrated data base/data communications system. In an integrated system, data created by one subsystem serve as the input to other subsystems. If some of the subsystems contain data which are one or two days old, then the entire system will be forced to operate with historical data if results are to be consistent from one module to the next. Thus, if applications which collect the operating data are implemented using distributed processing techniques, the capability of other subsystems to provide management information on a current basis may be precluded.

C. Computer Software

The Technical Services Division (TSD) and the Systems Analysis and Programming Division (SAPD) are responsible for software support within DSS. In this section we discuss the three classes of software with which TSD and SAPD are involved. The first is the utility programs, or programming aides like COBOL, which are used to develop and implement user applications. The second is general purpose application programs like CICS, which provide a high level of program support and are used in conjunction with class one programs to develop user applications. The third class is the actual application programs themselves. These may either be custom written using the tools found in the first two classes of software, or they may be packaged software programs procured from industry.

The software used to support the Data Pathing and Burroughs computers are not widely used within GPO. One reason is that these systems are geared for specific applications and are not used in general applications development. The Data Pathing computer is used to support PROBE, and the software it uses supports data collection, file editing, and telecommunications for specific terminals. The

Burroughs system uses standard Burroughs software such as the Master Control Program (MCP) and COBOL. This software is upwardly compatible with the remainder of the Burroughs product line.

In both cases, the software used is sufficient and can be supported by other hardware within the manufacturers' product lines. The primary use of software in TSD and SAPD has been to support applications running on the IBM configuration.

The first class of programs includes:

- Assembler Language.
- ANS COBOL.
- COBOL/VS.
- PL-1 Optimizing Compiler.
- Sort/VS.
- Statistical Analysis System.
- Systems Language 1.
- Tape Library Management System.
- UCC2.

These programs are tools used by the programming staff to create application programs for the user. These programs are standard for data processing installations the size of GPO. The use of these programs provides excellent capability for the GPO programming staff. For example, the PL-1 compiler used produces code which is extremely efficient over previous versions of the PL/1 compiler. COBOL/VS provides for code which is adoptable to the Virtual Storage paging mechanisms of the GPO operating systems.

The second class of programs is general purpose application programs. These include:

- The Administrative Terminal System (ATS).
- The Customer Information Control System (CICS).
- The Storage and Information Retrieval System (STAIRS).
- Terminal Application Processing System (TAPS).
- Time-Sharing Option (TSO).

The use of these programs has enabled the GPO technical staff to implement many applications. For example, the CICS package provides telecommunications support and transaction processing support for the IBM 370 Systems. Because of the wide range of facilities found in CICS, the GPO technical team has been able to implement applications such as the OMIS pilot and the on-line document reference file. Through the use of a high-level macrolanguage provided with the CICS package, the applications programmers have designed screens, accessed on-line files and reduced the time requirements of implementing the required applications.

The use of products such as the Customer Information and Control System (CICS) and Storage and Information Retrieval System (STAIRS) is to be encouraged. These programs provide a general framework from which the custom-written applications may be developed. These application programs can be developed in the least time and at the least cost through the use of this class of program products.

Normally, this level of program product provides its own macrolanguage to control processing functions. This enables a programmer

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to use general instructions and the program product will generate the necessary machine code. For example, in CICS if a programmer specifies the use of a 3270 terminal, CICS generates the code necessary for T/P support, message processing, and screen support. The programmer thus can eliminate many hours of coding and testing in developing new applications.

It is important that, as these products are introduced, adequate training be given to all technical personnel so that the cost-effective use of these products may be assured. If training is insufficient, full advantage might not be made of the product features during the systems design phase and time might be spent duplicating code which could be automatically generated during the programming phase. We recommend that the amount of formal training in the use of the GPO program products be increased. The training courses provided by the vendors of the products should be attended by both the programmer who will use the software and the analyst who must design a system based on the software capabilities.

The third class of programs is comprised of the applications systems such as the Master Typography Program (MTP) and SAMANTHA as well as the custom-written application systems developed by GPO technical staff. To date, the applications which have been automated throughout GPO have been fragmented, generally standing alone with little integration between systems within the various departments. For example, in the Financial Management Service there are systems for payroll, work in process, job order maintenance, and accrued expenditures. While each of these systems track cost, none is integrated with the automated cost accounting system. In the Superintendent of Documents Office, the Publication Reference File, Retail Order Processing and Bulk Inventory have been automated. However, they are not integrated even though they all use the same publication information.

Not all applications must be integrated to be useful. On the contrary, it is important to develop applications in segments so that implementation problems will be reduced. However, the segmented approach to application development must be planned, i.e., the systems must be designed and installed within the context of both an overall data automation plan and a data management plan.

In reviewing the applications, we grouped them into the categories of SU/DOC, Operations, Financial Management, and Other Administrative. For SU/DOC and Operations (Production), we have developed the basic data base relationships and defined the types of applications which should be implemented at GPO. We do not comment here on the Financial Management Applications since this was done in detail in Part Two of this report. The other administrative applications are primarily independent applications which are not part of an integrated documents, FMS, or production system.

1. Superintendent of Documents

The applications within the Superintendent of Documents Office are a combination of those generally found in mail order, subscription fulfillment and book retailing operations Although many similarities exist, each of these entities has individual requirements for information processing. In our review of the information flow, we noted that the operations being performed in each area (mail order, subscription/fulfillment, retail) are essentially the same since they all are concerned with book inventories, customer data, and administrative information. Thus, an integrated systems approach to documents data processing requirements can be described two ways: first, as major data base segments based on commonality of information and, second, as applications which use the information in these data base segments. The data base segments are:

1. Inventory data - includes all information by publication relative to inventories including:

   -title
   -price
   -stock level
   -author
   -stock number
   -reorder points
   -warehouse location

2. Customer data - includes information relative to any identified GPO customer including:

   -order history
   -address
   -name
   -subscriptions
   -account balance

3. Administrative data - includes all accounting and personnel data relative to SU/DOC operations.

The application functions are as follows:

Application	Data Base Segment Reference
Order Processing	
-Validation of stock	1
-Pricing	1
-N/A check	2
-Allocation of open stock	1

-Creation of picking ticket	1
-Credit check	2
-Back order processing	1

Inventory Control

-Stock receipts	1
-Stock disbursements	1
-Stock location	1
-Reorder points	1
-Stock movement analysis	1
-Back order control	1
-Sales analysis	1

Billing & Accounts Reveivable

-Invoicing	2,3
-Computer shipping and postage	1
-Update open accounts	2
-Statement of accounts	2,3
-Subscription account posting	2

Subscription/Fulfillment

-Name and address maintenance	2
-Automatic shipping tickets	1,2
-Automatic packing lists	1,2
-Accounting for new subscriptions	2
-Payments	2,3

The applications for Superintendent of Documents are nine major systems. They are:

- Annual Inventory System. This system is designed to provide a consolidated, computerized list of all sales publication assets on hand at the end of the fiscal year. In addition to the annualized reporting modules, this system also provides information on demand by stock number within location for specialized reports.

- Mail List System. The objective of this system is to provide fast and efficient subscription service to all GPO subscription customers. The system contains in excess of 2.5 million names and addresses for over eleven hundred individual subscription lists. Using this system, the user is able to maintain accurate mailing information for each of the subscribers. This system uses product outputs including computer printouts, microfilm, 3" x 5" labels, as well as magnetic tapes which are used to print mailing labels on a separate, off-line device.

Publications Reference File. In this system GPO maintains a master record of each publication which is produced. It contains descriptive information about each publication such as pricing, author, etc. The purpose of the automated system is to provide accurate, up-to-date sales information for other computer systems. In addition, it is used to produce a cumulative, up-to-date sales catalog which lists all items for sale by the Superintendent of Documents. The system serves to assist the Superintendent of Documents in answering inquiries about document availability. The files are also used in preparing orders as it is the reference file for accuracy of all publication information. This application has been implemented using STAIRS and CICS.

Publications Receipt and Control System. PRCS is a set of computer programs and manual procedures which control the processing and storage of bulk stock for the Superintendent of Documents. PRCS provides a control system for bulk orders and publications that are ordered, inventoried, and moved within the documents area. This system provides an on-line, bulk inventory file.

INFONET CSCS System. While not in itself an application system, the Computer Science Corporation INFONET system processes several applications. Many of the programs and applications developed through the use of this system contain proprietary programming languages, such as the General Programming Subsystem and Data Management Language. This means that all applications developed through the INFONET system must remain on INFONET system for future operation. The application systems running under INFONET are as follows:

- *Personnel Budget Management Reporting System.* This system provides for maintaining the current data file on all Superintendent of Documents personnel. Reports are then prepared showing personnel by payroll number, listing of employees eligible for in-grade promotions, reports showing vacant positions, and budget reports on payroll expenditures.

- *Sales Status Reports.* These show the document status, both daily and weekly, and the report of publications received, distributed, and sold.

- *Processing of Surveys for the Statutory Distribution Service.* These are special programs written to process special survey requirements of the library community.

- Documents Equipment Inventory Reporting System. Using this system, equipment inventory reports are prepared showing equipment by section and GPO number.

- Deposit Accounts Systems Inventory. The purpose of this system is to maintain the account records of people with money on deposit in GPO for purposes of ordering publications. Use of this system facilitates the updating of the account master file with credits and debits to the individual accounts. It also allows for name and address maintenance and providing monthly statements to customers. It also provides up-to-date information for answering inquiries and has served to reduce and eliminate the dollar value of overdrawn accounts.

- Monthly Catalog System. This system has enabled GPO to prepare catalog entries for the publications in a manner which conforms with the rest of the library community, namely, using the Ohio College Library Catalog (OCLC) system and combining it with an automated monthly catalog system. The result is a monthly catalog which is printed with data acceptable to the library community, both in hard copy and in OCLC format on the OCLC system for access by all libraries without recataloging.

- Retail Order Processing System. Its function is to expedite and control the processing of orders for publications. It produces shipping tickets and mailing cards, controls outstanding orders, creates back orders and refund cards, and provides microfilm files for source documents and filled orders. It also produces picking tickets and stock number in unit sequence, which enables the warehouses to expedite their processing.

- Special Accounts Reporting and Billing Control System (SARABCS). SARABCS is an automated billing system designed to accommodate billing to Government agencies, consigned agents and bookstores. The full system is being implemented in four phases and at present is partially completed.

In summary, the Superintendent of Documents has implemented many effective applications. As previously noted, these applications have been developed as independent systems which will cause them to be redesigned as GPO moves to a data base approach. However, these applications have provided many benefits such as a reduction in the order processing cycle from 30 to 7 days. This was done through several systems including PRF, which enables orders to be checked before processing; ROPS, which automates the order processing and facilitates order picking in the warehouse; and DASI, which checks the balances of deposit customers. In addition, the automated inventory systems have enabled SU/DOC to reduce stockouts and back order, and have facilitated the warehouse management operation by reducing the instances of lost stock.

The areas which need to be improved are:

- Subscription fulfillment - this system should be oriented toward customers rather than products. For each customer, a record of each subscription should be maintained rather than maintaining a record of each customer who subscribes to a given publication. This will provide more positive control over accounts receivable, mailing list maintenance, and sales analysis.
- Inventory control - at the present time inventories are monitored on a bulk warehouse level. This application should be expanded to include inventory control at a retail level.
- Sales analysis - this area needs to be expanded to include analysis by customer, product, class of products, etc. By better understanding the buying habits of its customers, GPO can be in a position to sell what the public is buying. This will help to reduce overstocks, markdowns, and obsolete stock.

2. Operations

The goal of an automated production system is to assist management in ensuring that the order is produced on time. In an automated system, all information which affects the print order must be captured and maintained during the life of the order. The basic functions required are:

- Order entry
- Order scheduling
- Requirements planning
- Inventory control
- Production tracking
- Purchasing management

In our review of the operations data flow, we developed the basic data base segments and the applications which should be implemented in the production department by GPO. The data base segments are:

1. Order Information - describes all aspects of the order -- routing, materials, due dates, customer.
2. Bill of Material file (inventory) - describes the materials required for each operation.
3. Routing - describes the machines and their capacities for scheduling purposes.
4. Vendor File - describes information related to the supplier of goods and services, including history, prices, open orders, status.

The applications which are required are as follows:

Order Entry	Data Segment
-create open order file	1
-define routing	1,3
-develop costing by operation	1,2,3
-assign schedule dates by operation	1
-create jacket	1
-interface to accounting	

Production Scheduling

-open orders by operation center by due date	1,3
-available machine reporting system	3
-detail scheduling by machine by center	1,3

Requirements Planning

-develop raw materials by order	1,2
-consolidated raw materials by day	2
-net material requirements based on inventory	2
-stockout and reorder reports	2
-interface to purchasing	2,3

Inventory Control

-raw materials inventory	2
-supplies inventory	2
-general inventories (posts, etc.)	2
-interface to general ledger	2

Production Tracking

-report by job by step	1,3
-exception reports based on progress versus routing due date	1,3
-reports on production bottlenecks which affect scheduled work	1,3
-job completion	1,3
-interface to billing	

Purchasing Management

-automatic stock and materials replenishment	2,4
-contractor progress reports	4
-automatic bid lists	4
-pricing of term contracts	4
-interface to accounts payable	

Each of these applications would be integrated by data base relationships and, as production data are captured from the shop floor, postings would be made to the FMS data systems.

The Deputy Public Printer (Operations) manages four departments: Customer Service, Printing Procurement, Production, and Quality Control. For the data automation inventory, Customer Service and

Production are grouped together, and Printing Procurement and Quality Control are described individually.

The Printing Procurement Department has automated applications in the following areas:

- Statement of Term Contracts. This system provides a statistical record of all printing procured through the use of term contracts in both the central and regional offices. It also provides the basis for answering Congressional inquiries about term contracts as well as assisting in development of other production analysis for the JCP and the Public Printer. It shows monthly cumulative listings of both the number and values of jobs procured by GPO.

- Statement of Invitations for Bid. Statistical records are maintained of all the invitations for bid which were sent to commercial suppliers for one-time jobs or term contracts. The system provides statistics on the response of the supplier, the size of the contracts, and the cost values for one-time jobs. It is also used to supply answers to Congress, JCP, and Public Printer inquiries.

- Statistical Report for U. S. Government Procurement for Marginally Punched Forms. A statistical record for all marginally punched continuous forms procured for the Federal Government is provided by this system. It maintains records by type of procurement, type of form, size, number of parts, type of paper, joining, carving, packing zone, contractor, and agency. Records are used as a guide for eliminating seldom used sizes of papers for the contractor for marginally punched continuous forms.

- Composition Program for Marginally Punched Continuous Forms. The Composition Program provides input tapes to be utilized by the Electronic Photocomposition Division to produce page-ready negatives for the sequence pages for the marginally punched continuous forms contract.

- Field Service Man-Number Report. The purpose of this system is to provide a detailed record of all hours of work by each employee in any associated production by operating class. It provides documentation of employees performing higher graded duties or jobs or duties other than those of their current job description. Also provided is a means of comparing an individual employee's production with the standard.

- Printing Costs Calculation System. This system provides the means for identifying the lowest cost bidder on each print order of high-volume, multiple-award term contracts. The system provides a detailed analysis, by contractor, of the total job cost of each print order that is placed on selected, high-volume, multiple-award contracts in each of the fourteen regional offices and the Central Office.

The applications programs for the Customer Service and Production departments are:

- Automated Paper Inventory. The inventory system maintains the status of all paper stocks used by the GPO main plant in preparing in-house work and produces daily reports which are used by the production planning staff in allocating available paper supply.
- Linotron Programs. These programs are designed to take automated data files and insert the appropriate typesetting commands to drive the Linotron 1010 System.
- Utility Programs. The Utility Programs are used as "patches" or to provide corrections to data. These are normally used in conjunction with the Linotron programs.
- Editing and File Maintenance Programs. The purpose of these programs is to edit and maintain the various types of data for eventual input for photocomposition. In addition, they are used to sort and break files into different components.
- Congressional Record Index. This system enables EPD to edit and maintain various types of data for eventual types of photocomposition devices. In addition, it enables EPD to sort and break files into components and produce and edit a file for biweekly issue and annual processing for the Congressional Record Index.
- Reproducible Inventory Control System. This system maintains the status of reproducible media for reprinting documents ordered by Congress and other Federal agencies.

We feel that with the exception of the purchasing function, the applications in the Production Department need strengthening, since presently it coordinates inventories, machines, manpower, and orders on a manual basis. Based on our experience, we find it unlikely that, with 800 orders per day, the production planning, order processing and job tracking functions can be manually handled in the most efficient manner since timeliness and accuracy are usually difficult to maintain in any manual environment. Also from a customer service standpoint, the inability to "flag" a troubled job can be a source of complaints from GPO clients.

Automated systems for order entry, production planning, requirements planning and job reporting should be implemented as soon as possible. These applications should be implemented in a two-step plan. The first step is to implement the segments in conjunction with the previously recommended GPO data automation and data management plan. The second step is to integrate the modules into the OMIS concept.

On the other hand, the Printing Procurement Department has implemented a system for determining low bidders on term contracts. In addition, it has installed bid list and vendor control systems to monitor contractors much more effectively than in the past. The use of these systems should be expanded to other types of purchasing.

3. Other Administrative

The General Services group has five major applications:

- Space Management System. This system provides information on the utilization of floor space of the Government Printing Office and reports such things as total square feet available by building number and floor. Square feet of space by division code, building number, floor, box number, use code, room number and column are listed. The outputs of the system are used primarily for planning of space utilization.

- Telephone Directory. A master file of all GPO employees and departments is maintained in order to produce the GPO telephone directory. The Directory system works in conjunction with the Linotron programs.

- GPO Forms Listing. This system maintains an active file of the 1800 forms used by GPO in forms number sequence.

- Paid Parking. GPO paid parking records maintained and retrieved by names of permit holder, permit number, slot number, payroll number, shift, etc.

The General Services applications combine planning, operating, and reporting systems and generally are adequate to meet the information needs of the General Services Division.

Two automated systems for personnel management are:

- Training File of Executives, Managers, and Supervisors. This system maintains a list of the training courses in which each GPO manager and supervisor has attended.

- Employee Data Base. This system provides the data base which may be accessed to provide statistical information on GPO employees to meet Civil Service Commission reporting requirements. In addition, it enables GPO management to have statistical reports of varying kinds on the GPO work force.

The data base has enabled Personnel to centralize management so that the records of each employee are accurate, up to date, and not duplicated in other parts of the data processing system.

The two major systems of the Materials Management Service are:

- Material Inventory System. An inventory and transaction record of materials inventoried in the GPO is provided by this system. The system also provides such things as daily detailed transactions, delinquent purchase orders, daily statement of costs, daily receipts, selected monthly transtions, yearly evaluations, a master description book of all transaction items, and storage bin labels.

- Postal Card Inventory System. This system provides inventory balances to assist in the production scheduling, packaging and shipment.

The applications provide Materials Management with good controls over inventories. A suggested improvement to these systems would be to provide terminal access to the files so that information can be acquired on demand. In addition, automatic triggering of reorders, information on economic order quantities, and maximum/minimum information could be included in the system. This would enable Materials Management to more effectively use the system as a planning tool.

III. PLANNED APPLICATIONS FOR AUTOMATION

In this section we discuss the ADP planning process, describe various data automation plans, and highlight some potential problems in systems and programming support of these plans.

There are significant differences in the types of automation plans for each of the GPO operating divisions. For example, the primary emphasis within the Superintendent of Documents Office is to integrate current systems into a common data base. This planned development of a data base structure will be done concurrently with the upgrading and improvement of many present applications. Other divisions, such as Finance and Acccounting, and Operations, have emphasized developing the primary applications required for the day-to-day operation of the respective divisions.

These new systems present a new set of problems to DDS systems and programming. Because of the wide variety of applications, there will be a requirement for a wider variety of skills for systems personnel. The increase in on-line applications will require more people to be CICS trained. The integration of applications in Documents will require skills in data base management. The increased number of programs in the inventory will result in an increase in maintenance programmers. Finally, the types of problems presented by the new applications (i.e., OMIS, integrated financial systems) require more systems analysis skills than programming skills.

A. Plans for Automation

Most plans call for the development of many separate and autonomous applications. Nevertheless, the applications which are being developed in all divisions will require a high degree of coordination and planning if they are to provide maximum effectiveness. We note that at the present time there is a lack of a coordinated GPO-wide data processing development plan. In addition, we saw no plan to develop a common data base structure for coordinating the development of the new applications at GPO. Without such a plan there undoubtedly will be duplicated effort, and systems will be developed which will require the same information, thereby requiring inputting the same data several times. More importantly, without an integrated plan, there is a substantial risk that applications will be developed in a nonoptimal sequence. By this, we mean that, in a well-planned data base/data communication system, the information requirements are clearly defined. Once the source of data for each application is identified, a strategy to first develop those applications which provide the fundamental operating information may be planned. Once developed, the applications which provide the second "tier" of management information can be implemented and so on. Without a plan, the applications may be implemented out of tier sequence, and the possibility exists that time and money will be spent on applications whose usefulness is dependent on applications which are not installed.

Another major problem that a uniform plan for a data base structure would minimize is that of similar but noncomparable data causing inconsistencies between reports in each operating division.

A noteworthy example of this is OMIS, which will collect the operating information for in-plant production. While its prime use will be to report on schedules and job status, the same information is the basis for job costing, payroll, and efficiency measurement reports. Since these systems will not collect the same data, they almost certainly will not report comparable data for the same production procedures.

Viewed individually, the planned applications of Production meet many requirements as defined by those departments. Assuming adequate staffing, each project should be able to be completed in the proposed time frame. The following summary shows the planned applications by division over the next five years.

1. Superintendent of Documents

The plans for automation of SU/DOC include:

- Subscription Fulfillment System. The Subscription Fulfillment System is to replace the Mail List Computer System. Its scope covers that part of the subscription process beginning with data entry of both subscriber and subscription data through the actual disposition of subscription items in the control of expired subscriptions. New capabilities include an automated data base for subscription management information and control, access to given subscriber's records on a one-entry basis for all affected subscriptions, provision for reporting on costs of distribution, and appropriate interface with the deposit account in revoke control systems

- Retail Order Processing Systems Interface and Enhancements. ROPS will be modified through the following areas: remittance capabilities, automating and scheduling order processing, and automated retention of back order information.

- Inventory Management System. Inventory Management will incorporate the current ROPS functions and will expand inventory in publications management to all sales publications inventories, both bulk and retail. The functions of obtaining stock inventory accounting, order processing interfaces, and managerial reports will be included in the IMS system.

- Cataloging and Depository Distributions System. This project addresses both the automation of the depository distribution operations and the depository acquisitions process in modification to the procedures by which the monthly catalog is prepared.

- Refunds and Dishonored Check Control System Interface and Enhancements. The purpose of this initial implementation is to interface the RDCCS with the order entry systems and mail list for SFS system in order to utilize output products from those systems that will affect the automatic transfer to customer data. Through this interface, the need for keying in data to the RDCCS will be eliminated for Central Office transactions.

- Special Accounts Reporting and Billing Control System. This project addresses Phase IV of the Special Accounts and Billing Control System relating to utilization of output products from other SOIS systems and automatic interfaces with this system. The most significant interface, will be the transfer of data automatically from ROPS and FSF in order to automatically regenerate bills or invoices and update SARBCS files.

- Sales Order Control is an integrated system for controlling all sales customer orders through microfilming and assigning of a unique control number. This procedure will eliminate duplicate filming, provide better control of all cases of dishonored checks, and assist in scheduling and retrieving all source documents. It will provide interfacing and compatibility between automated systems.

- Postage Calculation and Reporting will provide a means of automatically computing postage costs for all of Superintendent of Documents mailing programs and provide reports of these costs on a monthly basis, both for payment to the U. S. Postal Service and for management analysis.

- Documents Program Information Reporting, when operational, will be a way to extract from the functional operating systems information necessary to determine how Superintendent of Documents resources are being applied to different programs within the organization.

- Consigned Order Processing and Inventory Control System addresses the creation of automated control for fulfillment of transit order processing information, mailing services information, inventory maintenance information, and management reports in these areas.

- Documents Integrated Data System. This project addresses the integration of data in all documents automated information systems, the functional operating information systems which are being or are under development, and the management information system which is a new project. The project specifically addresses the task of standardizing and logically organizing the data elements found in the records and files of each application program. Once the data elements are classified, they will be integrated into a data base management system.

- Documents Management Information System will provide an integrated and automated system for processing management data which will support the operational technical strategic information requirements of document management as well as associated GPO and Congressional management structure.

- Automated Customer Information Products will use the existing publications reference file to provide hard-copy and microform outputs for customer ordering information purposes. It will encompass feasibility studies in the ultimate automated production of such customer information products such as subject bibliographies, price lists, pocket publications catalog, total sales catalog, and other special order forms.

The Superintendent of Documents plan provides a data base solution to integrating the applications. In addition, it provides for strengthening the inventory and subscription fulfillment systems. However, it will be important that SU/DOC coordinate its plans with Financial Management and Customer Service. FMS will require the input from SU/DOC in regard to accounting and administrative data. SU/DOC will require publication data from Customer Service as the print orders arrive at GPO for publications to be sold through SU/DOC operations.

2. Operations

The Printing Procurement Department plans three new applications. They are:

- Automated Procurement Control and Lists System will be directed toward creation of a procurement scheduling activity control and reporting facility. It is intended to replace and improve seventeen existing record maintenance procedures that are critical to daily operations.

  The system will include the capability to generate contractor compliance and performance data files for use in making awards. Further enhancements will include the creation of an automated bid list generation procedure that will eliminate the human element of the bid selection process.

- Printing Cost Calculations List will be an extension of existing GPO telecommunication systems for the calculation of printing costs. This project will expand the utilization of computer abstracting to all offices.

- Automated Inventory Control will utilize a mini-computer to record all inventory transactions on paper, materials and supplies.

The Quality Control, Customer Service and Production departments have a major effort underway, namely:

- Operations, Management Information Systems (OMIS). This system will be the primary automation project for production, quality control and customer service at GPO. At the present time, a pilot is being developed which will simulate selective portions of the ultimate OMIS system. The pilot version will be designed and implemented to operate parallel with current recordkeeping procedures on selective work that follows specific paths of production. The primary purpose of the pilot will be to prove feasibility of tracking production in a real-time environment through the GPO plant. Upon successful completion of the pilot, work will begin on the total system which will be an automated system to control and monitor production, procurement, and scheduling and processing, work progress accounting, and final delivery of work produced in-house or procured commercially. The system will provide information to allow timely monitoring of contractor compliance, maintaining current information on availability of materials, equipment, and reproducibles held in storage. The system will also be used to improve production quality control through automation of paper test data, paper issued and received, recorded wastes, and paper performance.

The plans for the Printing Procurement Department will bring it to a level of use consistent with our previous recommendations. However, many of the requirements of purchasing are included in the OMIS plan. Thus, Procurement will be developing duplicate systems with duplicate data requirements. While this is not the preferable course of action, we agree that this subsystem should be developed separately since there is an immediate need for progress in the printing procurement area. This is especially true when one considers that 65% of GPO work is procured and therefore affected by the proposed procurement initiatives. If Procurement will wait for OMIS to be developed, it would not have an application for several years.

In regard to OMIS, we were exposed to as many definitions of what OMIS will do as there are potential users of the system. It was originally envisioned as a system to perform all functions from order entry and job scheduling to procurement management. Since then, the system has been segmented for purposes of developing a pilot test which will track production orders through selected portions of the plant. It is expected that this portion of the pilot test will be conducted by October 1978.

We agree that the decision to perform a pilot test prior to making the full commitment was a prudent decision. In addition, the decision to implement OMIS in segments is sound. However, sequential implementation will possibly cause a void in planning and development for the order entry, scheduling, work-in-process and finished-job accounting applications. The Production Department is not in the planning phases of its own pilot system for each of the above applications. Therefore, the likelihood of even rudimentary order entry and scheduling systems is remote over the next two years.

We would recommend that analysts be assigned to develop a plan for implementing the following application modules:

- Bill of Material and Routing information.
- Order entry to create an open order file.
- Scheduling on a department basis.

These systems should all be coordinated through the data base administrator as proposed in Part One of this report. He will insure that each system adheres to the principles adopted for data management in OMIS and GPO as a whole.

3. Other Administration

Applications development plans in Management and Administration include:

- On-line inventory. The conversion of the materials and supplies inventory system to an on-line system. This on-line capability will provide for update and display of inventory status; automate procurement function by generating purchase requests and receiving inspection tickets.
- On-line paper inventory. This will provide on-line capability for update and display of inventory status. It will automate procurement receipt and issue functions.
- Automated government bills of lading. Use of this system will establish a data base which will have carrier names, their scopes of authority, uniform tenders and rates of specific origin and destinations. The request for the carrier to either refile or update his uniform tender within 60 days of expiration will be produced by the system. The program will accept a carrier's total system whether uniform tender applies. The Traffic Division automated system will consist of two or more integrated programs providing work and management reports for general bills of lading.

- Implementation of Automated SF-50 is an extension of the existing employee data base system which will provide for an automated preparation of Standard Form 50.
- Automated Security Data Base. The automation of selected portions of the personnel security clearances and investigations program will provide a data base reflecting the status of current and future investigations and clearance actions of all GPO employees. The total system will provide the Director of Security Service with a valuable tool for assessing the GPO personnel security posture.

The systems proposed for Management and Administration are adequate. However, the materials inventory system should be coordinated through the data base administrator in conjunction with OMIS and Printing Procurement. In addition, the personnel data base should be coordinated with FMS for payroll and job costing data.

B. Systems and Programming Support

The Systems Analysis and Programming Division (SAPD) currently employs 57 people. The breakdown is as follows:

- Managers - 2
- Analysts - 15
- Programmers - 38
- Computer technicians - 3

This staff is responsible for creating and maintaining the applications programs used in the GPO. At the present time, approximately 50% of their time is spent on program maintenance and 50% on program development.

The procedures used by the systems and programming branch are as follows: Once the user has received a priority clearance from the Automated Data Services Steering Committee, he contacts Systems and Programming. At this time, he is assigned an analyst and a Detailed Functional Systems Requirements Statement (DFSR) is developed. Once the DFSR is approved, the programming task begins. At each step of the programming process the analyst/programmer team is in contact with the user. This ensures that what the user wants is what is being delivered. When the project is completed there is a series of follow-up activities including user reviews, which are conducted by Systems and Programming management to ensure that the product is successful. In concept, this procedure is sound and produces good results from two standpoints. First, the user is involved in each step so that he is assured of getting the results he wants. Second, the documentation requirements of this method enable the system to be reliably maintained. While there will always be some problems in implementing new systems, this method has been accepted by both the users and the systems and programming staff as an effective method of developing applications.

There are three factors which will affect the systems and programming activity in the near future. First, the inventory of applications is growing at a substantial rate. This year thirty-two new application systems are being developed and twenty-one systems are being improved. This increase in applications represents over 300 new programs. Each of these programs will need to be maintained and redocumented as changes occur. This will cause the allocation of program maintenance personnel to increase.

Second, since there is a need to begin to integrate the independent data files to a data base approach, it will require additional planning and may require that systems be rewritten to accomodate the new file structure. This is particularly true in the Documents area where an integrated systems approach using a common data base is to be implemented. This new structure will cause the majority of application programs to be modified. In addition, the resources required to analyze the existing systems and planned systems for the integrated data base will be significant. This need will be duplicated in each major application area since, at the present time, the applications are not being implemented in an integrated manner.

Third, the production and administration applications are just beginning to be fully defined and it is expected that their number and complexity will increase substantially over the next few years. It is particularly true of OMIS where all of the applications have not yet been fully defined. Since the OMIS concept has the potential to be the most significant application yet implemented by GPO, the potential cost in SAPD resources -- particularly analysts -- could be extensive.

Because of these factors, we feel that the present staff will not be able to sustain the current rate of new application development. It is our recommendation that if the present rate of application development is to be sustained, the following steps be taken:

- Consideration should be given to either hiring or contracting for additional analyst and programming personnel. The current manpower estimates, coupled with the project plans, will provide for the basis for determining staffing levels. These estimates should be developed by the Data Steering Committee as defined in Section II.

- Formal training for programming personnel should be increased. If program support personnel are to use program products such as CICS, they should be formally trained in its use. This will enable the programming staff to understand how to use all of the facilities of the program products installed at GPO.

- Additional programming aids should be used. These include the use of interactive programming tools which will help reduce program development time.

IV. ASSESSMENT OF THE USE OF TECHNOLOGY IN THE PRODUCTION PROCESS

This section assesses the GPO's use of technologies in the various printing processes. Because of the diversity of machines, techniques, and methods used in the printing industry, it is important to establish the framework which was used in our analysis. First, the production requirements for a process were identified; certain applications will preclude the use of specific pieces of printing equipment or will require the use of different printing technologies. In our assessment of the printing technologies used by the GPO, we took into consideration the operating requirements of the environment for which it was intended. Second, the physical layout of the main GPO plant precludes the use of certain processes. The deficiencies in plant layout have been previously documented and a plan to build a new GPO facility has been submitted to correct these deficiencies. Third, because of the size of the GPO facility and the dollar resources committed to machinery, there will be cases when, from an operations standpoint, the use of a new technology would be advantageous, but the economics of disposing of nondepreciated equipment preclude this course of action. Therefore, some of the technology employed reflects the fact that GPO management has attempted to maximize its return on investment.

A. Production Requirements at GPO Central Office

The Central Office workload consists primarily of four major elements: the first is The Congressional Record, a daily publication; the second is The Federal Register, also a daily publication;

the third is bills which occur periodically throughout the session of Congress; and the fourth is hearings which occur approximately one-third of the year. The remaining Congressional work consists of calendars, reports, committee minutes, and miscellaneous published material.

The Congressional workload is time sensitive with many jobs being composed, printed and bound within 12-24 hours. The Congressional Record must be prepared overnight and delivered to Congress by 8 o'clock in the morning, even though material may be received as late as 9 o'clock the previous evening. The Federal Register is another daily publication which is produced on the day shift. Both of these publications are 8-1/2 x 11 inches and contain as many as 300 pages per edition. These requirements have implications on the methods used for composition, as well as on the requirements of the printing presses used to prepare these publications. From a composition standpoint it requires significant numbers of keyboard, proofing and pagination personnel so that the workload may be distributed enough to meet the rigid time deadlines. Compounding this situation is the fact that material must be keyed, proofed and corrected before the page can go to platemaking, the pressroom and the bindery. In terms of the pressroom and plate-making area, they must be equipped with high-speed presses with a large page capacity. This is required in order to print the pages in a minimum time span. Since the number of impressions per hour is one of the critical throughput measurements in assigning the presses to be used, by using a press with a large page capacity, throughput can be increased while minimizing the number of presses and operators required. Binding is

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not greatly affected since these publications only require trimming and stapling.

Bills and hearings sometimes require overnight turnaround and are both "doc size" publications. In addition, hearings contain a large amount of camera-ready copy which must be inserted with the typeset material. This adds to the complexity of scheduling the equipment available to complete the necessary assignment. The primary problem caused by merging camera ready and typeset copy relates to planning pagination and signatures. The camera-ready copy is normally agency copy and is subject to last minute changes. If the change adds pages to the document, the signatures are modified and pagination is changed. Thus, it is difficult to preprint sections since the layout of the publication is subject to change.

The other scheduling problem revolves around the choice of printing presses used. If a hearing must be turned around overnight, the linotype section is used. Then, a decision as to offset or letterpress must be made. If offset is chosen, the time for plate preparation is extended versus that of letterpress. If letterpress is chosen, then camera copy to be used in the same signature must be processed through the photopolymer processor. In either case, the balancing of machine availability versus deadline becomes very complex.

While many of these jobs fall into the same general classifications (i.e., bills, hearings, etc.) there are many differences among jobs. For example, the page count for hearings can run from 32 to

3,000 pages and for bills from 1 to 200 pages. The final number of copies can vary from 50 to 10,000 or more. Each of these factors has an impact on the type of machine used in the pressroom and in binding.

If a job requires four pages, then either a press is used which can accomodate small signatures or multiple copies are printed on a large press and cut apart in the binding. If the job requires a high number of copies, then a plate must be used which allows for high quality, high volume copies. Each press requires different amounts of set-up time, and each class of press has different operating speeds. These considerations, combined with the requirement to select the press which can handle the volume most economically, creates a scheduling problem which must be resolved.

Another problem of scheduling jobs with multiple page counts and varying volume is in the bindery. Each of the publications must be folded, cut, and bound before shipping. The number of pages affects the decisions on the method of binding. For example, if a Committee Report were 1,500 pages it would not be stapled, it would require a perfect bind, or some other process. These decisions must be made in the planning process if machines are to be appropriately scheduled.

Compounding all of the problems listed above is the fact that the volume of in-plant print orders exceeds 800 per day. This volume has a significant impact on the quality of scheduling since it becomes virtually impossible to manually pick the optimum schedule.

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Further, it is difficult to pick a schedule that will meet production requirements and use all the machines.

To summarize, the Congressional requirements are:

Turnaround: 12 hours to several days
Page count: 1 to 3,000 pages
Number of copies: 50 to 10,000
Volume of orders 800/day

Because of the varied demands of the Congressional workload, coupled with the tight deadlines, GPO must maintain enough equipment to handle peak Congressional workloads. However, during many parts of the day, the machinery is idle even though there is a backlog of agency work to be completed. The problem of not using excess machine capability is caused in part by the scheduling process and in part by personnel availability. There are no automated means of scheduling the work at the present time on either a departmental or plant-wide basis. If a serious attempt is going to be made to use the machines in an optimum manner, then the scheduling process must be automated.

The scheduling should be done initially on a departmental basis and, when fully operational, expanded to optimize the total job flow within the plant. The system would take as input machine availability schedules and job order descriptions with quantity, ready dates, due dates, and job step or processing information. The output of the system would be schedules by job which show start and stop times for each operation by machine, a machine utilization report, and a critical job report. The system would need to be implemented as on-line application, since planning would be done by shift. Depending upon turnaround time and cost, the system could be implemented on the IBM system or a minicomputer.

D. Offset Division Technology

The Offset Division is responsible for operation of the offset printing presses and the preparation of the offset plates. In preparing the offset plates, two processes are used. The first is the traditional method where the camera copy is placed in the frame of a large camera and exposed in multiple pages so that a negative is produced. The negative is developed, dried, cut into pages, and sent to Offset Preparation for review and opaquing as necessary. The job is then sent to imposition where each page is placed on a sheet of goldenrod paper in correct position so when it is folded in the Bindery after printing the pages will be in proper sequence. This imposed "flat" of negatives is placed in a vacuum frame and exposed by a light source onto a printing plate. This process is used to prepare approximately 90% of the offset masters at GPO. This method is employed throughout the printing industry and it is the mainstay of offset plate production. In this process, GPO is using the most modern photographic equipment since the acquisition of two new cameras this year.

The second process used is similar to the first, but many of the manual steps are executed by a computer. In this process, the camera-ready copy is photographed on a roll of 35mm film. This roll containing the negatives of each page is placed in an automatic computer-controlled positioning mechanism. Each page negative is exposed to a light source and the image of each page is projected onto an offset printing plate. After all the necessary pages have been exposed on the plate, it is developed and the plates are then ready to be put on press. This process is completely controlled by the system, thereby providing excellent registration in creating the offset plates. Another benefit of the system is that it eliminates the need for large negatives, as well as eliminating the review and opaquing operations of the offset preparation section.

It is important to note that this process uses 35mm film. This is the same type of film that can be produced by the Electronic Photocomposition Division with the Videocomp 500 electronic phototypesetters. As these two capabilities merge, there should be an increase in throughput by virtue of producing 35mm film on the phototypesetters and using this in the computer-controlled, offset master production process. However, before this step can be taken, disciplines and procedures have to be established that will enable the transition to 35mm film. These procedures include eliminating the need for cut-ins or paste-up after the film has been created. In addition, the ability to merge camera-ready and previously prepared film must be developed to handle hearings, or other publications which require artwork. For example, by adding a scanner which digitizes artwork, half tones, etc., for the Videocomp 500, use of the EPD and offset system could be increased.

The offset printing process which the GPO uses includes many different types of machinery. The primary machines are web presses, sheet-fed presses, and perfecting presses. The current production line uses two new perfecting presses which enable printing on both sides of the sheet. In addition, three new, large offset web presses are being added to the production capacity. GPO is also adding sheet-fed presses which have folding equipment at the end of the production line. This will enable the offset section to take over some of the functions previously done in the bindery. This folding equipment has been used with web presses for some time; however, using it with sheet-fed presses represents a new application which should prove to bring some financial benefits to the GPO, both in the terms of labor saving and time saving in the overall production process.

In reviewing the Offset Division, we noted the lack of any automated techniques for scheduling. Based on the large number of machines, the variety of requirements and the job mix, it is difficult to optimize the facilities. The scheduling of the presses can be accomplished through linear programs. By matching the required workload against machine capacity, the schedules could be improved which would have a positive impact on customer service. In addition, by better utilizing the equipment, many job costs could be lowered.

It is our understanding that OMIS will address this problem within the next three years. We feel that it is important that this area be addressed within the next year. The reasons for this are twofold. First, the gains in productivity will alleviate some of the production pressure for the pressroom. Second, historical data may be developed, and any problems with computerized scheduling be resolved prior to to merging with the OMIS.

The initial scheduling will have to be performed on each shift at a minimum. In order to accomodate the turnaround time requirements, we recommend that the scheduling system be within an on-line application on the IBM System, or employ a dedicated minicomputer which utilizes a Fortran Complier. Depending on the cost functions and turnaround involved, either choice could provide an adequate technical solution.

C. Letterpress Division Technology

The Letterpress Division is the oldest of the two pressroom operations in the Government Printing Office. In the past, Letterpress depended on the composition being prepared on either monotype or linotype devices. Using the hard plates created by this process, the presses, which were either sheet-fed or web-fed, were used to produce the signatures and subsequent pages for most GPO publications. However, with the decrease in monotype and linotype composition in the GPO and the increase in electronic photocomposition, the usefulness of the letterpress operation is declining.

Because of the extensive investment in letterpress equipment and its usefulness in producing short-run jobs, the GPO has developed new technologies in the area of photopolymer relief plate making. Using this process, copy prepared by EPD or camera-ready copy is photographed and, rather than an offset plate being produced, the negative is processed through the photopolymer machines. This process creates a plate which has all the characteristics of a plate prepared by hot metal. That is, there is relief between the characters and words on a page so that the direct impression printing method can be used by the letterpress. The significance of this process is that the photopolymer concept enables these plates to be prepared economically. In this way, short-run work can still be facilitated with the photopolymer plates, and the cost of making expensive plates is eliminated.

In order to effectively use this technique on the existing letter press equipment, the GPO perfected the method of using magnetic saddles to affix photopolymer plates to the bed of the printing press. This was a significant breakthrough since the major presses used to produce The Congressional Record and The Federal Register use cylindrical presses. Without the magnetic saddles, the photopolymer plates would not stay properly aligned on a cylindrical press, and production could not be maintained.

In comparing the technology of photopolymer relief plates to that of the industry as a whole, we observe that GPO is in the forefront. However, it is important to note that it is in the forefront of a diminishing technology: letterpress. In this context, the advantages obtained by the photopolymer process have enabled GPO to take advantage of the capital investment in the letterpress equipment. In addition, it has solved and prevented serious production bottlenecks due to the rapid rise in EPD composition and the subsequent decline of monotype and linotype operations.

In our opinion, Letter Press needs to improve in its job scheduling functions. The recommendations given for Offset with regard to scheduling should be applied here as well. It is expected that in the future the Letter Press Division will continue to operate; however, not at the present level of production. The Offset Division will absorb a larger percentage of the workload as the amount of camera-ready, 35mm film, and positive proofs are increased. The primary functions of Letterpress will be to accommodate short runs and to alleviate production bottlenecks, particularly in the Congressional workload.

D. Electronic Photocomposition Division Technology

The Electronic Photocomposition Division (EPD) is replacing the hot metal method of typesetting previously employed within the Government Printing Office. Essentially, EPD offers two alternative means of producing fully composed pages. The first is the capability to process automated data files on magnetic tapes through a phototypesetter. These tapes can then be "direct drive" tapes or they can be tapes which are processed by GPO composition software. The second method is a direct one-to-one replacement of the monotype/linotype facilities. For this method, EPD has approximately 80 computer terminals linked to minicomputers. These systems enable an operator to key data, save data, make corrections, then process data through a program to create camera-ready pages from a phototypesetter.

In supporting these two types of applications, Electronic Photocomposition Division has the following hardware and software support:

- Three Videocomp 500 phototypesetters
- Two Linotron 1010 phototypesetters
- Eleven PDP 11 minicomputers

- One hundred and twenty-three data entry terminals installed
- A series of composition and data entry programs for the minicomputers
- A proprietary page make-up software package for the page make-up computers
- Master Typography Program

This equipment is used to support many different applications. Examples of these are:

- Automated Data Applications
  - Census Bureau publications in which tapes are supplied which will drive the Videocomp- and Linotron-type phototypesetters
  - Other Department of Commerce publications which are supplied in the same format
- Minicomputer Applications
  - The Federal Register, which is keyed and stored on the minicomputers, and pages composed on the phototypesetters
  - Budget appendices and budget documents which are being keyed on the minicomputers for automated preparation of these documents
  - Bills and hearings which are keyed, stored and edited on the minicomputers

The Electronic Photocomposition Division offers a variety of services, and therefore has several sections within the Division. Some are discussed below. First, the Planning Section assures that the client requirements are fully understood before the job is started. This includes planning the data base, or master files, which contain the information necessary to compose the book. In addition, it includes planning all pages and publications. The planning staff also serves as a customer liaison in resolving

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miscellaneous problems throughout the production cycle.

Another section in EPD is the Keyboarding and File Updating Section. Using the visual displays, operators will key data into the computer system. In addition, the terminals may be used to edit and correct information already keyed into the data base. The editing is done on a visual display using special command keys built into the terminal. As corrections are made, the text which is modified is displayed on the visual display for the operator's verification.

The Computer Operations Section maintains and operates the computers used in support of the keyboarding and file updating functions, the composition functions, and the page make-up functions. The computer operators in this section perform many of the same duties as the computer operator in the main computer center at GPO.

A fourth section is Proofreading. In this section all material composed in EPD is proofread and marked for purposes of correction by the keyboarding and updating personnel.

In the Phototypesetting Section, the tapes created by the computer room are mounted on Linotron 1010 or the Videocomp 500. After processing by these machines, either camera-ready positive proofs or film is created. In either case, this material is ready to be sent to Offset for plate making.

Viewed as a system, the Electronic Photocomposition Division is a self-contained, autonomous unit: It employs sophisticated machinery and software to perform the mission previously handled by manual composition methods elsewhere at GPO. In terms of the present capabilities being employed in the Electronic Photocomposition Division versus the state-of-the-art of the industry and the methods used by most printers today, the GPO is in the forefront of users in this area. This Division uses the most up-to-date editing capabilities with the PDP computers and the video display terminals, and devices such as the Videocomp 500 are the top-of-the-line phototypesetters available to the printing industry today.

Despite the impressive array of computer hardware and software, EPD has received complaints about the level of service it provides. First, the users claim some difficulty in getting EPD planning personnel to assist them in setting up their applications. In some cases, several months have passed before test tapes for the Linotron or Videocomp have been returned to the user. Because of the turnaround times, the user has had difficulty in meeting production schedules. A problem we saw is that EPD can select its applications with minimum intervention of the Scheduling or Customer Service Departments of GPO, and this lack of integration may be the cause of customer complaints. It is recommended that all requests for EPD services be monitored by Customer Service, as is the case with other GPO services.

Second, the quality of the Master Typography Program (MTP) and the Linotron 1010 has been the source of many user complaints. While the MTP can handle many user formats, it is often limited in its application, particularly for tabular material. What occurs as a

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result is that the customer can fulfill most of his requirement with the MTP, but not all. This limitation presents a major production problem for some users. We do note that GPO has begun a phase-out of the MTP, but it remains a main production feature at EPD.

The Linotron was developed over 10 years ago by Merganthaler Linotype Co. Thus, it is behind the state-of-the-art in many respects. For example, it is restricted as to the number of fonts that can be on-line at one time. If multiple fonts are required, then the grids must be changed. This manual process can be a source of many quality problems. Moreover, the quality problem is compounded by the fact that most EPD jobs which are created by user-supplied tapes are not checked thoroughly to insure such things as the proper page count, or that the images appear to be at an acceptable level of quality.

We recommend that EPD:

- Improve the MTP, or provide alternative means of production to reduce agency complaints.
- Shift as much production as practical from the Linotrons to machines equal in quality of the Videocomp 500.
- Institute improved quality control procedures in the area of customer-supplied tapes. This would include:
    - Review all jobs to determine if they are visually correct.
    - Provide a means for contacting the customer with a problem before the job is returned.
    - Establish an express service for rerunning jobs which were previously completed in an unsatisfactory manner.

At a more general level, we comment that since EPD is a leader in the use of minicomputers for composition, it must exercise some caution in developing its plans. When an organization is on the leading edge, there is an element of risk involved in choosing the proper course for future actions. Because of the investment in both equipment and the development of policies, practices, and procedures, GPO has a large exposure if the technology tomorrow is incompatible with that of today. Therefore, we recommend that the planning function for expansion of computerized applications be reviewed and coordinated by the Automated Data Services Steering Committee. The success or failure of EPD will have consequences for each section of GPO. Therefore, the plans should be reviewed and approved by senior GPO managers, with the support of Steering Committee and EPD technical specialists.

This recommendation is particularly important in light of the future developments and capabilities being developed in the Electronic Photocomposition Division. These include the ability to use a phototypesetter to prepare 35mm film. This film can then be loaded into the computerized platemaking system in the Offset Division for producing the fully composed offset printing plates. Another area of development centers on the use of electronic files created on the minicomputers for use with on-line data bases. This capability will enable the public to have access to many documents in ways which were previously not possible. These future methods of accessing public documents could include on-line data base searching, microfilm systems, and cable television -- some already in use in the U. S. today for other information retrieval applications.

V. MICROFILM USE IN THE GOVERNMENT PRINTING OFFICE

In March 1977, the Joint Committee on Printing authorized the Government Printing Office to produce microfilm publications under the following guidelines:

- To convert to microfiche, as necessary, and as requested by individual depository libraries, that category of publications identified as non-GPO documentation.
- To covert to microfiche, as necessary, and as requested by individual depository libraries, and when savings and cost are clearly demonstrable, that category of publication identified as GPO documentation.

In the past, GPO produced microfilmed publications at the request of the publishing agency. However, until that authorization, GPO had not been able to use microfilm in a generalized program. The authority granted by the Chairman of the JCP specifically stated that this authority should not be construed as permission to establish a microfilm sales program. Rather, it was an experimental program to determine if there could be cost savings and/or better service provided to the library distribution program through the use of microfilm.

A. Assessment of Current Efforts

Based on cost estimates and reports prepared by the Comptroller's Office of GPO, the first-year savings are estimated to be in excess of $1 million. The savings by program area are as follows:

Senate Appropriation Hearings	$ 57,000
House Appropriation Hearings	75,000
Environmental Protection Publications	19,000
Bills, Amendments, and Resolutions	46,000
Code of Federal Regulations	32,000
The Bound Congressional Record	1,051,000
House and Senate Reports	83,000
Total	$1,363,000

Many of these savings are projected savings through the remainder of fiscal year 1978. The results show that GPO can save a significant amount of money in providing the needs and requirements of the statutory library distribution program.

During our interviews in the area of micrographics, we discovered that this issue has many facets and is the subject of intense debate at the present time. Our tasks included identifying the authorizations provided the GPO to use microfilm and determining if it was meeting requirements as defined. It is our opinion that the GPO has fulfilled the requirements in the original authorization for purposes of testing the concept of microfilm distribution. The results have shown that microfilm distribution will increase in number of documents distributed. In addition, microfilm has saved money in the past, and should save money in the future. During our interviews we found two major instances of cost savings through the use of microfilm. One was the U. S. Post Office, which reported savings of over $300,000 in one application. The Occupational Safety and Health Review Commission reported savings of over $150,000 by using microfilm distribution.

To be sure, there are differences of opinion as to whether the distribution should be optional or mandatory, or, for example, whether to distribute Diazo or silver halide microfilm for this purpose. The Public Printer has established an Advisory Council to help resolve these issues. It cannot be expected that everyone will agree on what are the best means of producing and distributing the microfilm products offered by GPO; there are over 1,200 libraries, many of which have spoken out on this issue. However, since the microfilm distribution will be elective, we feel the GPO has complied with its obligation since it has provided an additional service, at a reduced cost to the government, and has increased the distribution of government documents to research libraries.

We suggest that future uses of microfilm should be examined by GPO in the following way:

- At the end of the fiscal year, compile all costs of the new program.
- Survey the depository libraries to determine the level of satisfaction and solicit suggestions for improvement.
- Assuming cost justification and a favorable library response, estimate the financial impact of the entire program including the cost of administration. This includes the costs of quality control to insure that all documents are microfilmed, shipments are made, and product quality is maintained.
- If the financial impact is still positive, proceed with the plan.

B. Discussion of Available Techniques

The micrographics industry offers a wide range of products and services. In today's environment, the choice of micrographic products includes:

- Reel microfilm which is available in 16mm and 35mm.

Reels are used primarily in applications where information is added continuously in sequence and the need to update is infrequent.

- **Microfiche** which is a sheet of film containing multiple micro-images in a grid pattern. Microfiche permit data to be updated, and are easily duplicated for mailing or reference purposes.
- **Ultra fiche** which is essentially the same a microfiche except that images can be reduced 90 X rather than 18 x or 48 x with standard microfiche.

Derivatives of the above including cartridges, operative cards, cassettes, jackets, and micro-opaques.

The current technology permits the micrographic user to select the medium best suited to a particular purpose. This technology is available to GPO through private suppliers of micrographic services. While GPO has access to the most modern micrographic capabilities, usage has been limited to the Depository Library Program, and for publications for which the publisher has specifically requested microfiche output.

We feel that GPO should be allowed to expand its use of microfilm technology to include sales by the Superintendent of Documents and allow micropublishing to be offered as a general GPO service. There are many benefits to be gained by easing restrictions and allowing GPO to be more comprehensive in the use of micrographics, for example:

- Reduced costs to Government agencies that have publications with large distribution.
- Reduced costs to the general public for many publications.
- Potential for increased distribution of Government publications through microform availability.

. Reduced mailing costs.

A recent GPO survey of depository libraries showed that if most publications were available in a microformat, there would be an increase in the total number of publications distributed. In addition, the number of hard-copy publications would diminish. If this relationship holds true with the general sales program, then the cost per publication should decrease since the cost to produce microfilm copies is less than the corresponding printing and binding cost for hard-copy. Since the proportion of hard-copy publications versus microfiche publications is decreasing, the overall product price would decrease. This decrease in overall price should have a positive impact on sales and would provide more revenue for SU/DOC.

Mailing costs would be reduced since microfiche weighs much less then hard-copy publications. To mail as much hard-copy information as could be held in one ounce of microfiche would cost over $6.00 versus the $.15 cost for microfiche. The savings in mailing costs plus the benefits described above can be realized by expanding the concept of microfilm sales for the present publications.

In addition, EPD is presently adding the ability to output to 35mm film rather than to hard copy. When this is a reality, it will reduce the per page cost of composition by eliminating the costs of positive paper. Moverover, if EPD can develop a way to proofread using micro-images, the costs could be reduced even more by eliminating all paper costs ($.50/page). At present, EPD is engaged in discussions with micrographic equipment suppliers to determine the feasibility of developing micrographic proofing stations.

The Offset Division is currently using a computerized platemaking system which uses 35mm film as input. When the GPO facility begins to produce the 35mm film in substantial quantity, the cost of platemaking will be reduced since the paper cost, the cost of negatives, and most preparation will be eliminated. When the GPO and Offset capabilities are in place, GPO will be able to reduce the cost of hard-copy publications through the use of microforms in the production process as well as to substantially reduce the cost of micropublishing.

It is our conclusion that GPO's use of microfilm technology should not be limited. Based on the available technology, the Government can decrease production costs and increase the distribution of public information.

VI. REVIEW OF OBSERVATIONS AND RECOMMENDATIONS IN GPO USE OF TECHNOLOGY

Our general observation is that at present GPO maintains an adequate level of computer hardware and software inventory. However, to support an expected increase in on-line applications, GPO is upgrading its computer configuration.

- Recommendation: In addition to further hardware acquisition, the Data Systems Service should expand the staff of the Systems Analysis and Programming Division; training programs should be expanded to reflect increases in staff.
- Anticipated Benefits: An expanded Systems Analysis and Programming staff would be able to meet the increased demands for applications development that are indicated in the GPO data automation plans.

While data automation plans exist for various units within GPO, we found no overall document for coordinating the automation planning of GPO as a whole.

- Recommendation: The use of distributed processing must be coordinated with an overall GPO data automation plan developed under the auspices of the ADS Steering Committee.
- Anticipated Benefits: A unified data automation plan will allow coordination of systems and data so that elements created by one subsystem can be used by another. Moreover, such a plan will ensure compatible data items.

We found no automated methods of scheduling production, tracking orders, monitoring job status (except in Printing Procurement), or collecting data for the accounting system. Moreover, we were unable to obtain sufficient information that would ensure that OMIS as currently planned will meet all requirements for production planning and scheduling.

- Recommendation: A two-step approach is recommended to develop the planning and scheduling applications. First, these modules may be independently developed under the coordination of the ADS Steering Committee and the data base administrator. Second, once operational, these modules should be linked to an operational OMIS.

- Anticipated Benefit: Although independent development is a less than optimum manner of developing applications, such a strategy will provide for the quickest development of the required modules while not impacting the development schedule of the OMIS program.

In general, our observations are that the scheduling of production through the Central Office plant can generally be made more effective since there is individual machine availability and a continual backlog of in-plant orders. This situation can be optimized through the use of a computer-assisted scheduling system.

The Electronic Photocomposition Division has installed -- and represents -- an advanced state of the art in automated composition systems. Technological expertise notwithstanding, our observation is that its organizational structure can act as a constraint to the effective use of such systems.

- Recommendation: EPD and top GPO management should develop stronger coordination links between this division and:
  - Customer Service Department
  - Planning Service
  - ADS Steering Committee

- Anticipated Benefit: An increased level of external coordination will provide assurance that EPD is meeting all customer expectations and is coordinating its growth plans with those of the remainder of GPO.

In our assessment of GPO's use of microfilm, we observed that GPO has adequately fulfilled its obligations for using microfilm within the constraints of the directives of the JCP.

- Recommendation: GPO should expand its use of microfilm in the library and statutory distribution program and should offer a microfilm sales program through the Superintendent of Documents.
- Anticipated Benefits: An active microfilm program would result in reduced production and mailing costs as well as in increased distribution of publications. The public would also benefit since microfilm versions may be offered at a lower price than the printed version.

APPENDIX A: IDENTIFICATION AND LISITNG OF PUBLICATIONS PRODUCED, STORED AND/OR DISTRIBUTED BY GPO ON A FREE OR SUBSIDIZED BASIS - A DISCUSSION OF WORK ITEM A.1.

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APPENDIX A: IDENTIFICATION AND LISITNG OF PUBLICATIONS PRODUCED, STORED AND/OR DISTRIBUTED BY GPO ON A FREE OR SUBSIDIZED BASIS - A DISCUSSION OF WORK ITEM A.1.

The purpose of this appendix is to document Coopers & Lybrand's efforts to perform Work Item A.1, Schedule A of the Request for Proposal (RFP) for JCP Project No. 101, which called for an:

> "Identification and listing of publications produced, stored and/or distributed by the GPO on a free or subsidized basis, to the Congress, to Federal departments and agencies, to depository libraries, and to the public (The listing should include titles or series and other identifying characteristics of each publication distributed on a free basis or subsidized basis, the primary distribution point recipients, whether the publications are distributed to the recipient on a free basis or a subsidized basis, and where applicable the statutory requirements (e.g., Title 44, United States Code) which require such distribution)."

In the detailed work plan of April 17, 1978, the project team stressed the necessity of establishing common definitions of the terms "free" and "subsidized" since these are the key categories into which publications on the listing would fall.

The discussion presented in the following paragraphs describes the steps taken to gather information and to formulate findings and conclusions and the difficulties that surfaced in performing this task.

I. DEFINITIONAL PROBLEMS

A significant and substantial impact upon performance of Work Item A.1, was the lack of standard and generally-accepted definitions of the terms "free" and "subsidized" publications. In accordance with our Technical and Management Proposal of December 12, 1977 and the JCP's Request for Proposal, early project activities focused upon GPO's role in the production, storage and disposition of government publications. During our initial efforts, we found that:

- The Depository Library Program (44 U.S.C. Chapter 19) distributes new titles free to participating libraries at a rate of 3,000 per year. Since the program began, over 37,000 separate titles have been distributed.
- The Department of Agriculture under its by-law program (44 U.S.C. 1701) distributes over 3200 separate titles.
- An estimated 15,000 separate bills, resolutions, hearings and reports are prepared and distributed by-law (under various provisions of title 44 and other public laws) for Congress each year.
- Over 100 other items are distributed each year on a by-law or subsidized basis.

The project team also determined that GPO produces, stores and distributes documents on a "by-law" basis (costs incurred are charged to Congressional Appropriation) and a reimbursable basis, (costs are paid by the client agency requesting the work). Some documents, i.e., the Special Sales Program, are handled on a "subsidized" basis (costs are partly recovered by sales and partly from the Congressional Appropriation).

In discussion with the JCP staff, we noted their concern with several issues included in or related to Item A.1, yet each felt or suggested different activities should be performed in order to resolve the particular issue. Our discussions centered on three topics:

- "Free Distribution". The questions in "free distribution" are which publications developed by or for Federal agencies, e.g., Federal Register, are being charged to the Congressional Appropriations and which publications are being distributed by GPO under the "by-law" provisions of Title 44?

- "Automatic Distribution". Concern has been expressed by Members of Congress over the large numbers of publications they receive without a request. Many documents are sent "automatically" to Congress under the requirements of Title 44, USC, and other federal regulations. In addition, numerous publications in this category that are received by Congressional offices and Members are not required under law, are not requested by the Congressional offices or Members, and are not distributed by the GPO. The JCP staff desired to find out the scope of this problem and what role GPO plays, if any, in the printing and distribution of these publications.

- "Documents Free to Recipient". The staff was interested in receiving a list of documents sent without charge to various recipients by GPO. Specifically, they considered a publication to be "free" if the recipient did not pay for it directly whether the recipient be a Member of Congress, a constituent, or an agency.

These topics presented the project staff with, on the one hand, a better understanding of the possible avenues for investigation and, on the other hand, a problem in satisfying the varying desires of the JCP staff within the dollar and time limits of the contract.

II. MEETINGS WITH JCP STAFF

To clarify the thrust of our work, the project team and JCP staff met on several occasions to discuss the definitional problems detailed above. Since several alternative directions were presented to the JCP staff during these meetings, it would be useful to discuss the alternatives and the responses to them. The following presentation describes the chronological sequence of events.

A. Memo and Letter of May 10, 1978

The initial communications set forth some of the difficulties faced by C&L in determining the scope of the listing effort. The project team identified three alternative approaches to performing Work Item A.1, basing these approaches on the fact that several lists were in existence. Alternative One, involved execution of the approach as originally proposed, i.e., using students as researchers to compile a separate list. Alternative Two, also called the "Retyping Approach", entailed the complete retyping of each of the lists identified by the project team (an estimated 4,000+ entries) into one list. The final alternative, which was the Recommended Alternative, involved reviewing all existing lists for completeness, and compilation of the lists into an appendix containing an introductory narrative describing each list's contents and source.

B. Meeting of May 25, 1978

On May 25, 1978, the JCP staff met with the project team. During the meeting, the JCP Staff Director authorized C&L to proceed with the Recommended Alternative (as described in the May 10, 1978 memo) and asked C&L to submit a proposed estimate for a plan to "Identify the Sources of Automation Distribution" so as to identify all of the sources, besides GPO, that distribute documents, publications and similar material to Congressional offices and Members of Congress. C&L was also requested to develop definitions of "free" and "subsidized" publications, and "automatic distribution".

C. Proposal Dated June 6, 1978

C&L responded to the JCP staff request in a document sent June 6, 1978. This proposal represented an enhancement of Work Item A.1 by expanding the categories of documents to be reviewed and adding the requirement of identifying how publications are automatically distributed to Members of Congress by sources besides GPO. Definitions of the three key terms were also included in the proposal. The proposal also stressed that C&L would continue to carry out work related to the Recommended Alternatives apart from any decision on the additional work.

D. Meeting of June 22, 1978

A meeting was held to discuss questions that had arisen and to review the contents of the June 6, 1978 proposal. C&L was requested to continue to perform work on the Recommended Alternative as per the JCP Staff Director's previous instructions.

E. Meeting of July 18, 1978

The JCP staff, requested that C&L attempt, where possible, to include "additional" information in the lists being prepared under the Recommended Alternative. Basically, JCP staff was interested in the procedures C&L was using to obtain a complete and accurate list of publications. In addition, they wanted to know if we would examine GPO mail lists and other records such as bindery records, printing jackets, etc., as well as utilize GAO's list of recurring reports to Congress. C&L indicated that the project team would utilize as many sources as were relevant in compiling the list within the constraints of the dollar and time limits in the contract.

F. Meeting of August 8, 1978

At a meeting between C&L project team members and certain JCP staff, the format of this Appendix was discussed and finalized. JCP staff requested, and C&L agreed to include, a narrative which detailed the project team's experiences in performing Item A.1. Also, the narrative would contain C&L's conclusions and recommendations as to what could be done at a later time to identify all the sources of the "automatic distribution" documents.

The final format was reviewed by certain JCP staff members and was adopted for this Appendix. The discussion which follows serves to highlight the major data sources, information collected, and problems encountered by the project team in performing Item A.1.

III. SOURCES EXAMINED

In the course of carrying out activities related to Work Item A.1, we examined many facets of GPO's operations dealing with document distribution. We also examined the role of Congress and Executive departments and agencies in an effort to determine how and to what degree we might respond to the JCP. Each major step is discussed below:

A. Statutory Stock Distribution Service (SSDS)

As the primary distribution arm of GPO, SSDS performs the bulk of "by-law" and reimbursable distribution of publications printed by GPO. SSDS operates two basic programs:

- By-law Distribution is the storage and distribution of publications and subscription items without charge to the recipient for various Government agencies and the Congress in accordance with specific provisions of law (Title 44) which require that the cost be borne by appropriations to the Superintendent of Documents.
- Reimbursable Mailings are the distribution of publications for other government agencies in accordance with Section 1701 of Title 44. The Superintendent of Documents is reimbursed for the cost of these services by the requesting agency. Storage services for inventory is also provided on a reimbursable basis.

The U.S. Department of Agriculture (USDA) publications comprise almost 80% of the by-law distribution made by SSDS. (Most Congressional documents are shipped from the Binding Division and the details of this operation are discussed in Section B). USDA interprets Section 1701 of Title 44 as requiring the Superintendent of Documents (SU/DOC) to distribute publications on a "free" basis -- an interpretation with which the GPO legal counsel agreed. It is important to note that GPO is pursuing a policy of challenging by-law distributions and has, in the past few years, eliminated several titles, e.g., Your Child from One to Six, Infant Care, etc. from the catetory of by-law distribution.

B. Bindery Records

For bulk shipments and most Congressional documents, distribution is made directly from the Binding Division. The project team wished to sample the Bindery's records to determine to whom documents were distributed and by what authority. However, we found that the

Bindery does not maintain separate records for distributions. As is the case for most GPO operations, the work jacket, which contains the complete documentation for each job, is used to determine distribution. Some agencies will enclose a separate list which details distribution. When the books are sent out, the list may be put back into the jacket or be discarded.

We did learn that for Congressional documents, certain mailing lists are used to distribute documents. The lists cover the following Congressional documents:

- House Business Calendar
- Senate Executive Calendar
- Reports on Public Bills and Resolutions
- Documents
- Reports on Private Bills
- House and Senate Hearings
- Senate Business Calendar
- Public Bills and Resolutions
- Public Laws
- Private Bills
- Private Laws
- Daily House and Senate Calendar

Exhibits A-1 through A-4 contain samples of these lists or "boards". (All exhibits appear at the end of this Appendix). Each "board" is posted in the Bindery and in the Congressional Information Section for reference. These lists are established by GPO with the knowledge of the JCP.

C. Mail Lists

One source of information about document distribution thought to be potentially useful was the computerized departmental mail lists maintained by GPO. The lists are set up in ZIP CODE sequence. GPO issues a catalog of mail lists and Exhibit A-5 contains a sample page from the catalog. Each page shows that list's unique code number, a brief description of the list's audience or document it is used for, the number of individual "records" or addresses on the list, and the total number of documents required for a mailing.

D. "Congressional Printing By Ordering Source" Report

Because GPO maintains the bulk of its records only by jacket number, it is extremely difficult to trace the distribution of a certain document. To assist in tracking Congressional publications, we utilized a GPO report entitled: Congressional Printing By Ordering Source, sample pages of which are contained in Exhibit A-6. The report delineates printing and binding costs for individual entities, i.e., Congressional committees and offices.

The first page, Exhibit A-6a, shows the Fiscal Year in which the printing was ordered, the ordering source code and descriptor, and the dollar amount of the printing. Exhibit A-6b contains the total billing for each class of billings, *e.g.*, Congressional Records, Documents etc., for the period. The third sample page, Exhibit A-6c, shows the breakout for lump sum billings for each ordering month, while the last example, Exhibit A-6d, contains pages from the detailed listing. In this particular sample, we selected ordering sources 081 (By-law) and 083 (JCP) to serve as illustrations. Note that in many cases, the detailed line item may read "Misc. Pub. - Field Service" or "Pubs. Distr. Title 44", or "TIAS". The first designation refers to work completed by Region III, Departmental Service Office (DSO); the second covers those publications distributed under open jacket number 29-025 (List of Open Jackets, Fiscal Year 1978 No. 3) for publications distributed under authority of Title 44 U.S.C. Secs. 702, 1710, 1712, 1714 and 1715. The final entry, "TIAS", refers to treaties.

IV. GENERAL OBSERVATIONS

As the preceding material demonstrates, we found no central, accessible source of distribution information in GPO. In performing activities related to Work Item A.1, the project team was exposed to a variety of ideas and concepts. From these, we have drawn some general observations concerning the questions of distribution of Government documents.

A. GPO is a Distribution Agent

First and foremost, GPO is an "agent" or provider of services for Government organization wishing printing and/or distribution services, and its records are generally not maintained according to the title of a publication. Also, in many instances, GPO is directed by law to perform certain activities. However, it was brought to C&L's attention by the JCP staff that the House Appropriations Committee requested GPO to compile data in a format that facilitates access by title. The project team's experience was that such data as exists or may be available, are not readily accessible. GPO does not maintain any document which could be classified as a master list of free or subsidized publications.

B. Concern Over Waste

Congressional concern over the amount of waste, i.e., excessive copies and needless publishing in Federal printing has been voiced for several years. The project staff believes that the information developed over the course of our study shows that GPO's role is that of an agent as the GPO does not initiate or author the publications. As Section III illustrates, the project team looked elsewhere to determine what groups ordered printing. For example, a comment often made in past appropriation hearings centered on numbers of boxes of documents that cluttered the hallways of Congressional office buildings.

The project team first contacted several Congressional committee staffs to see how they handled printing orders. What we found was that generally, most committees would order up to their statutory limitations of 1,000 documents and, on less frequent occasions, utilize the additional $700 value of printing provisions allowed under current regulations. A check of the "Congressional Printing by Ordering Source" report and the various open jackets confirmed this observation.

We also were made aware of the fact that such committees do not prepare nor monitor printing budgets. Because GPO establishes the estimate for Congressional printing in the GPO's appropriation request, most of the committees are not directly concerned with printing budgets or costs. Moreover, while Title 44 limits the number of copies for each title, there is no method to either monitor or limit the number of titles or the individual cost per title for committee printing. While no hard evidence of actual printing waste was found, the fact that cost is not a factor in the printing operations of Congressional committees may give rise to the inference that waste is not discouraged.

C. "Automatic Distribution" of Documents

Another Congressional concern has continued to be the ever-rising numbers of books, pamphlets, and other documents that flood a Member's office over the course of a session. Although GPO has been viewed by Congress as the prime source for this flood, our review seemed to indicate that:

- GPO performs only about 50% of all government printing, according to informal estimates made by several GPO and agency sources.
- GPO distributes only about 40% of the documents it prints.
- The current state of GPO records would not permit the determination of specific recipients *e.g.*, Congressman, sender, without significant cost.
- Agencies themselves distribute a large number of documents that are printed in-house or by the National Technical Information Service (NTIS).

As part of this specific effort, we examined the GAO publication "Requirements for Recurring Reports to the Congress" which contains over 1,900 reports that must be made by agencies and departments to Congress. As a representative sample, we selected several reports from the National Highway Traffic Safety Administration and asked how the documents were distributed. According to NHTSA sources, two copies of each report are sent to the House and to the Senate. Several thousand copies are printed and delivered to the agency, and distribution to individual Members is by request only. NHTSA representatives did indicate that in some cases, special reports are sent automatically; however, these are sent directly from the agency and not through GPO.

It would not be possible to determine all the sources which comprise the universe of "automatic distribution of government publications" without an additional specially planned effort. Based upon our review, it would appear that quantities are not the problem and, perhaps, the number of titles might be. In that regard, the Senate Governmental Affairs Committee is undertaking a study designed to measure the scope of Federal Government public information printing. The Committee has asked each agency to furnish information on:

- The title of each department or agency publication.
- The sale price, if any.
- The methods of distribution:
  - mail list
  - congressional distribution
  - conferences, meetings
  - other

If successful, this project could give the JCP staff an estimate on the number of titles issued in a one-year period by government entities.

V. PRESENTATION OF THE CONSOLIDATED LISTINGS

In the preceding sections, we discussed some of the problems encountered in performing Work Item A.1. These problems, of course, impacted the listing effort. However, the project team did identify several lists, prepared by disparate sources, which contained such publication titles. As part of our work, we attempted to review each list for completeness and relevance and to compile them into a master list.

Because the USDA program contains over 3,200 separate titles, we have not included them in our consolidated listing. For those interested in reviewing each title, we suggest obtaining from GPO or USDA a copy of List of Available Publications of the United States Department of Agriculture, List Number 11. Included as Exhibits A-7 and A-8 are two shorter lists which contain some of the more popular titles from USDA List Number 11.

Our consolidated list is presented as Exhibit A-9 and displays the document's title, the statutory or Congressional authorization for its distribution, the agency which originates the publications, and the cost basis upon which it is distributed. A key, which follows Exhibit A-9, explains the distribution point symbols and the three categories of cost upon which distributions are based.

VI. RECOMMENDATIONS

The following recommendations to the Joint Committee on Printing are based upon the information presented above and reflect not only the input of the project staff, but the ideas of many of the people interviewed during this project.

- Examine every aspect of Title 44 that deals with quantities, distribution and cost to determine its relevance. Concomitant with this examination should be the formulation of overall policy directives concerning the use of Congressional funds for distribution of non-Congressional documents.

- Request Congressional committees to develop and monitor their own detailed printing budgets. Institution of their own printing budgets by the Congressional committees (instead of an overall GPO budget) should provide better awareness and control of Congressional printing costs.

- Request GPO to furnish details on each title included under Program Number 9031 (By-law Distribution/Free Publications) and under source number 081 on the "Congressional Printing By Ordering Source" Report for analysis by JCP staff.

- Conduct research and/or hearings on the scope of the overall Federal Printing program with the view toward defining what is being done, by whom, and at what cost.

- Clearly define what is considered to be a "free" publication. Use of the "cost to recipient" test is a good one, unless the need is to determine costs to GPO, then standard GPO definitions could be used.

- Conduct a study of the "automatic distribution" of government publications to satisfy several key objectives. They include:

  - Determination of the source, e.g. Congressional, Departmental, Judicial and other, of various government publications reviewed by Members of Congress.

  - Identification and listing of Congressional documents such as Committee reports, hearings, etc. automatically distributed to Members of Congress.

  - Identification and listing of those documents distributed "automatically" or "by-law" to members.

  - Analysis of the procedures used by various sources for "automatic distribution", including criteria utilized in making a distribution, and number of distributions made per year.

  - Formulation of recommendations for controlling automatic distribution.

EXHIBIT A-1

PUBLIC LAWS

October 1, 1977-September 30, 1978

Files and Downtown Lot

BOARD #3-A
(Rev. 4-1-78)

(Deliver following delivery of Congressional number)

Department	Copies
Senate Printing Clerk: ST-48, Capitol ____ J29-121	30
House Committee on Appropriations: H-218, Capitol ____ Bylaw	5
Senate Committee on Appropriations: Room 1208, Dirksen ____ J29-121	3
House Bill Clerk: Room H-324, Capitol ____ Bylaw	1
Congressional Jacket Review Section: Room B610, Stop FMC ____ Bylaw	1
Proofroom: Building 3, 7th Floor ____ Bylaw	2
General Counsel: Room C-814 ____ Bylaw	2
Offset Division: Building 3, Room C-262 ____ Bylaw	2
Congressional Record Index: Room 507B, Senate Courts, 120 C St., NE. Bylaw	2
Executive Office of the President: White House Records Office: Room 6 EOB ____ Req. 39	20
Office of Management & Budget: New Executive Office Building, 726 Jackson Place NW., Room G-236 ____ ~~Req. 14~~ Bylaw 25	75
General Services Administration: Law Library, Room G-13, GSA Building. (pick up at G St. door) ____ Req. 31	15
Library of Congress: Gift & Exchange Division, Receiving Unit, 2d & M Streets SE., SE. Corner Bldg. 159 Navy Yard Annex ____ Bylaw	16
Administrative Office, U.S. Courts: Consigned to Supt. Docs., Key List No. USC06 ____ Req. 6	1,000
Agriculture: Room 117-E, North Administration Building, 12th & Independence Ave. SW. Reqs. 119 & 132	110
Agriculture: Forest Service Information Receiving Room 0-166 Rear South Building, 12th & Independence Ave. SW ____ Req. 111	25
Air Force, HQ USAF/Mail Center: Room 4B, 1064, Pentagon, South Loading Platform ____ Req. 86D	86
Army: East Loading Platform, A G Publications Center, Pentagon, Washington, D.C., Room 1D526 ____ Req. 273C	858
Civil Service Commission: Room 5L45, 1900 E St. NW., Library Req. 58	50
Commerce: Room 6882, 14th & Constitution Ave. NW. Req. 65	50
Federal Energy Administration: Federal Bldg., Room B-511, 12th & Pa. Ave. ____ Req. 607	41
General Accounting Office: Legislative Digest Section, 441 G St. NW., Room 7016 ____ Req. 8	100
Health, Education, & Welfare: Legislative Materials Officer, Room C-410, North HEW Building, 330 Independence Ave. SW ____ Req. OA-20	60
~~Health, Education & Welfare:~~ ~~Legislative Materials Officer, HEW OHUS Rm. 3658 HEW North Bldg., 330 Independence Ave SW ____ Req. OA-213~~	~~60~~
Interior: Room 1617, 18th & C St. NW ____ Req. 27	75
Justice: Room E216, 10th & Constitution Ave. NW ____ Req. 5	135
Labor: Room S1-38, 200 Constitution Ave. NW. Req. 82	21
Library of Congress: Congressional Research Service, 1st & Independence Ave., SE., Receiving Platform, Rear Main Bldg. (2d St. Entrance) Bylaw	20
Navy: Eisenhower Warehouse #1, 6208 Eisenhower Avenue, Alexandria, Virginia 22304, Marked Supt. Docs., M/F Navy Distribution ____ Req. 220	141
Navy: O.S.D. East Loading Platform, Pentagon, Mr. Windus, Room 4A948 ____ Req. O-233	96
Transportation: DOT/OST/DIST. OPER. U. TAD-482.41 400 7th St., SW., P-2 Level ____ Req. 5-0002	70
Treasury: Internal Revenue Service, Internal Revenue Building, Room 1419, Mail Room, 12th & Constitution Ave. NW., via 12th St. driveway ____ Req. A-0567	90
Treasury: Doc. Clerk, 15th & Pennsylvania Ave. NW., Room 1320 ____ Req. 9	50

EXHIBIT A-2

REPORTS ON PUBLIC BILLS AND RESOLUTIONS

October 1, 1977–September 30, 1978

Boxes

(Deliveries on this list to be made following delivery of files and downtown lot)

BOARD #2-B
(Rev. 4-1-78)

Department	Copies
ERDA: (Pick up at C St. door) Req. F-13	6
Defense Logistics Agency: (Pick up at C St. door) Req. O-34	6
Federal Deposit Insurance Corp: (Pick up at C St. door) Req. 2	2
General Services Administration: Law Library, Room G-13, GSA Bldg. (Pick up at C St. door) Req. 81	8
General Services Administration: Law Library, Region 3 (Pick up at C St. Door) Room 7043, 7th & D St. SW. Req. 86	8
Health, Education & Welfare: Social Security Administration, Baltimore, Md. (Pick up at C St. door) Req. SSA-41	10
Nuclear Regulatory Commission: (Pick up at C St. door) MARK: Distribution Service Unit Req. D-138	4
Federal Power Commission: Marked: "Room 4016" (Pick up at C St. door) Req. 60	7
Administrative Office, U.S. Courts: General Counsel, Room 641, Lafayette Bldg., 811 Vermont Ave., NW Req. 7	6
Administrative Office, U.S. Courts: Judges Library, Room 6318, U.S. Court House, 3d & Constitution Ave. NW. Req. 16	1
Army: Defense Comm. Agency, 8th & South Courthouse Rd., Arlington, Va., Attn. Code 232, Room 1025 Req. 302-C	1
Civil Service Commission: Room 6145, 1900 E St. NW., Library Req. 61	3
Court of Claims: Clerk, Room 105A, 717 Madison Place NW Req. 1	1
Office of Telecommunication Policy 1800 G St. NW., Room 735 Req. 7	3
Federal Communications Commission: Room L-18, 1919 M St. NW Req. 48	8
Federal Reserve System: Research Library, Board of Governors, 20th & Constitution Ave. NW., Room 3236 Req. 87	1
Federal Trade Commission: 6th & Pennsylvania Ave. NW., Room 680 Req. 414	1
HEW—National Institutes of Health: 9000 Rockville Pike, Bethesda, Md., Bldg. 1, Room 217, Req. NIH-8004	2
CIA: Printing Services Bldg., Distribution Section, McLean, Va. Req. 22	10

Department	Copies
EPA: Waterside Mall, Rm. 821W, 401 M St. SW. Req. 14	4
Federal Power Commission: Stockroom B-3, 825 N. Capitol St. NE. Req. 66	8
Foreign Claims Settlement Commission: Room 400, 1111 20th St. NW. Req. 37	1
General Accounting Office: Legislative Digest Section, 441 G St. NW., Room 7016 Req. 6	10
Environmental Protection Agency: Waterside Mall, Room 834, 401 M St. SW. Req. 16	6
Housing & Urban Development: Room 9258, 451 7th St. SW. Req. 62	2
NASA: 600 Independence Ave. SW., Room A58A Req. 7	5
Federal Register: Statutes Unit Room 8401, 1100 L St. NW. Bylaw	1
National Credit Union Administration: Office of General Counsel, Room 4202-B, 2025 M St., NW. Req. 81	1
National Labor Relations Board: Room 900, 1717 Pennsylvania Ave. NW. Req. 4	2
National Science Foundation: Room 235, 1800 G St. NW Req. 7	5
Community Services Administration: 1200 19th St. NW., Room R522 Req. D79-R607	3
Labor: Room SL-38, 2nd & Constitution Ave., NW Req. 79	12
Panama Canal Company: Room 312, 425 13th St. NW Req. 42	1
National Institute of Education: Room 638-B, 1200 19th St. NW. Req. B-112	4
Health, Education, and Welfare: PHS/NIOSH—(Pickup at G St. door) M/F HEW-PHS, NIOSH, Legislative Officer, Room 8-20, 5600 Fishers Lane, Rockville, Md Req. PHS-72	1
Health, Education, and Welfare: PHS/HSA—(Pick up at G St. door) M/F HEW-PHS, HSA, Room 1422, Cong. Mat. Parklawn Bldg., 5600 Fishers Lane, Rockville, Md Req. PHS 37	1
Health, Education, and Welfare: Center for Disease Control, FMO, Room 230, 255 East Paces Ferry Road, Atlanta, Ga. 30333 Req. PHS-11	1
Health, Education, and Welfare: PHS/HRA—(Pickup at G St. Door) M/F HEW-PHS, HRA, Room 10-22, Center Bldg., 3700 East West Highway, Hyattsville, Md Req. PHS-66	1
Health, Education & Welfare: HCFA/OPPR, Rm. 3021, 330 C St. SW. Req. HCFA-22	8

Department	Co
Health, Education, and Welfare: Food & Drug Administration (Pick up at G St. Door) Room 15-33, Parklawn Bldg., 5600 Fishers Lane, Rockville, Md. Req. PHS-3007	
Health, Education & Welfare: Room 13C-06, Parklawn Bldg., 5600 Fishers Lane, Rockville, Md. Req. PHS-4006	
Public Library: Acquisition Department, Room 416, 800 G St. NW Bylaw	
Selective Service System: 7th Floor, 600 E St. NW Req. SC26	
Small Business Administration: Room B-4, 1441 L St. NW Req. 5	
Smithsonian Institution: Office of General Counsel, 406 Smithsonian Bldg., 10th & Jefferson Dr. SW. Req. 320	
Superintendent of Documents: Library Division (SLL), 5236 Eisenhower Avenue, Alexandria, Va. 22304 (G Street Door—Mail Room) Bylaw Attn: Congressional Document Section	
Treasury: Internal Revenue, Legislative Research Section Library, Room 4217, 12th & Constitution Ave. NW., via 12th St. driveway Req. A-0875	
~~U.S. Information Agency:~~ I.C.A. Room 804, 1750 Pennsylvania Ave. NW Req. 10	
~~Supreme Court: Library No. 1, 1st St. NE Req. 4~~	
Veterans' Administration: 810 Vermont Ave. NW., Room C-13, (036 D) Req. 87	
Tennessee Valley Authority: 400 Commerce Ave., E10B76, Knoxville, Tenn. 37902 Req. 42	
Tennessee Valley Authority: Technical Library, 400 Commerce Ave., Knoxville, Tenn. 37902 Req. 87	
Securities & Exchange Commission: S.E.C. Library, Room 150, 500 North Capitol St Req. 16	
Postal Service: 475 L'Enfant Plaza, W. SW., Room 2P-924 Req. 6021	
Hill Cr [illegible]: F. Recording, Bldg. 1, 4th Floor Bylaw	
U.S. International Trade Commission: Rm. 152, 701 E St. NW Req. 1	
Pension Benefit Guaranty Corporation: 2020 K St. NW., Room 6100 Req. 23	
Tennessee Valley Authority: Room 100, 401 Bldg., Chattanooga, Tenn. 37401 Req. 48	
Water Resources Council: 2120 L St. NW Req. 1	

EXHIBIT A-3

DOCUMENTS

October 1, 1977–September 30, 1978

Boxes

(Deliver following delivery of files and downtown lot)

BOARD #4-B

(Rev. 6-1-78)

Department	Copies
ERDA: (Pick up at C St. door) Req. F-13	6
Defense Logistics Agency: (Pick up at C St. door) Req. O-83	3
General Services Administration: Law Library, Room C-13, GSA Building (Pick up at C St. door) Req. 51	1
Health, Education, & Welfare: Social Security Administration (Pick up at C St. door) Req. SSA-41	9
Health, Education & Welfare: (Pick Up At C Street Door) M/F: HEW-PHS-ASC, Rm. 13-12, 5600 Fishers Lane, Rockville, Md Req. PHS-78	1
Agency for International Development: Room B-927, 21st & Virginia Ave. NW. Bylaw	6
Civil Service Commission: Room 5L45, 1900 E St. NW., Library Req. 60	1
Nuclear Regulatory Commission: Attn.: Distribution Service Unit (Pick up at C St. door) Req. D-138	4
EPA: Waterside Mall, Room 821, 401 M St. SW Req. 14	6
Revision of Laws: Room B-351, Rayburn House Office Building Bylaw	1
Environmental Protection Agency: Waterside Mall, Room 834, 401 M St. SW Req. 16	6
Office of Telecommunication Policy: 1800 G St. NW., Room 735 Req. 7	1
Federal Deposit Insurance Corporation: (Pick up at C St. door) Req. 3	8
Federal Trade Commission: 6th & Pennsylvania Ave. NW., Room 630 Req. 414	1
Foreign Claims Settlement Commission: Room 400, 1111 20th St. NW. Req. 27	1
FCC: Room L-18, 1919 M St. NW Req. 49	2
General Accounting Office: Legislative Digest Section, 441 G St. NW., Room 7016 Req. 10	1
Health, Education & Welfare: Legislative Materials Officer, Room G-410, North HEW Building, 330 Independence Ave. SW Req. OA-20	5
Housing & Url. Development: Room 9253, 451 7th St. SW Req. 62	3
Justice Department: Room B-216, 10th & Constitution Ave. NW Req. 9	8
NASA: 600 Independence Ave. SW., ~~Room A-44A~~ Req. (2 Bylaw)	5
HEW—NIH: National Institutes of Health, 9000 Rockville Pike, Bethesda, Md., Bldg 1, Rm. 217, Req. NIH-3004	2
HEW—ADAMHA: Room 13-C-06, Parklawn Building, 5600 Fishers Lane, Rockville, Md Req. PHS-4006	1
Federal Power Commission: (Pick up at G St. Door), MARKED: Room 4016 Req. 61	1
Federal Register: Statutes Unit Room 8401, 1100 L St. NW. Bylaw	1
Federal Power Commission: Stockroom B-3, 825 North Capitol St. NE Req. 66	6
Labor: Room S1-28, 2nd & Constitution Ave. NW Req. 84	10
National Science Foundation: Room 238, 1800 G St. NW Req. 7	8
HEW-PHS: Room 18-14, 5600 Fishers Lane, Rockville, Md Req. PHS-9	1
National Institute of Education: Room 426-B, 1200 19th St. NW. Req. B-112	4
Health, Education, and Welfare: PHS/NIOSH—(Pickup at G St. door) M/F HEW-PHS, NIOSH, Legislative Officer, Room 8-30, 5600 Fishers Lane, Rockville, Md Req. PHS-72	1
Health, Education, and Welfare: PHS-HSA—(Pick up at G St. door) M/F HEW-PHS, HSA, Room 1422, Cong. Mat. Parklawn Bldg., 5600 Fishers Lane, Rockville, Md Req. PHS 37	1
Health, Education, and Welfare: Center for Disease Control, F.-O. Room 230, 255 East Paces Ferry Road, Atlanta, Ga. 30333 Req. PHS-11	1
Health, Education, and Welfare: PHS/HRA—(Pickup at G St. Door) M/F HEW-PHS, HRA, Room 10-27, Center Bldg., 3700 East West Highway, Hyattsville, Md. Req. PHS-66	1
Health, Education, and Welfare: Food & Drug Administration (Pick up at G St. Door) Room 15-25, Parklawn Bldg. 5600 Fishers Lane, Rockville, Md Req. PHS-3007	1
Health, Education & Welfare: HCFA/UPPR, Rm. 5021, 330 C St. SW. Req. HCFA-32	5
Navy OSD East Loading Platform: Pentagon, Mr. Windus, Room 4A948, General Counsel Req. O-230	2
Community Services Administration: 1200 19th St. NW., Room 522 Req. D79-3077	3
Public Library: Acquisition Department, Room 416, 901 G St. NW Bylaw	1
Superintendent of Documents: Library Division (SLL), 5236 Eisenhower Avenue, Alexandria, Va. 22304 (G St Door—Mail Room) Bylaw Attn: Congressional Document Section	2
Superintendent of Documents: U.S. Government Printing Office, Public Documents Warehouse, Attn.: Subscription Stock, 8610 Cherry Lane, Laurel, Md. 20810 Req. 414	6
~~U.S. Information Agency~~: I.C.A. Room 804, 1750 Pennsylvania Ave. NW. Req. 10	5
Postal Service: Room 2P-824, 475 L'Enfant Plaza W., SW Req. 5021	3
Veterans' Administration: 810 Vermont Ave. NW., Room C-13 Req. 87	5
Tennessee Valley Authority: Technical Library, 400 Commerce Ave., Knoxville, Tenn. 37902 Req. 87	1
Securities & Exchange Commission: SEC Library, Room 150, 500 North Capitol St. Req. 18	2
Postal Rate Commission: 2000 L St. NW., Room 500 Req. 34	1
Bill Corner: For Recording Bylaw	1
Selective Service: 7th Floor, 600 E St. NW Req. SC26	3
Panama Canal Company: Room 312, 425 13th St. NW. Req. 43	1
Small Business Administration: Room M-4, 1441 L St. NW Req. 5	1
U.S. International Trade Commission: Room 159, 701 E St. NW Req. 1	1

PUBLIC BILLS AND RESOLUTIONS

October 1, 1977–September 30, 1978

EXHIBIT A-4

Files and Downtown Lot

(Deliveries on this list to be made following delivery of Congressional number)

BOARD #1-A
(Rev. 4-1-78)

Department	Copies
House Bill Clerk: H-324, Capitol .... Bylaw	2
House Journal Clerk: H-324, Capitol .... Bylaw	1
Senate Legislative Counsel: Room 6123, Dirksen .... Bylaw	1
House Legislative Counsel: Room 136, Cannon H.O.B. .... Bylaw	3
Daily Digest: Room H-157, Capitol .... Bylaw	1
Congressional Jacket Review Section: Room B610, Stop FBC .... Bylaw	1
Proofroom: Bldg. 3, 7th Floor .... Bylaw	1
General Counsel: Bldg. 3, Room C-814 .... Bylaw	1
Superintendent of Composition: Bldg. 3, Room C-726 .... Bylaw	2
Congressional Record Index: Room 507B, Senate Courts, 120 C St., NE. Bylaw	3
Offset Division: Bldg. 3, Room C-282 .... J. 19-131	6
Records Office: Room 1, E.O.B. .... Bylaw	2
Executive Office of the President: White House Records Office, Room 1, E.O.B. .... Req. 43	2
Office of Management & Budget: New Exec. Office Bldg., 726 Jackson Place NW, Room G-236 .... Req. 16	45
General Service Administration: Law Library, Room C-13, GSA Bldg. (To Be Sent to C St. door, GPO) .... Req. 31 (5 Bylaw)	90
Library of Congress: Exchange & Gift Division, Receiving Unit, 2d & M Streets SE., SE. Corner Bldg. 159, Navy Yard Annex .... Bylaw	25
Agriculture: Room 117-E, North Adm. Bldg., 12th & Independence Ave. SW .... Reqs. 98, 101, 102, 105, 106, 109, 110, 111 (5 Bylaw)	91
Air Force, HQ USAF/Mail Center: Room 4B 1064, Pentagon South Loading Platform ... Req. 86-D .... (5 Bylaw)	27
Army: East Loading Platform, A G Publication Center, Pentagon, Wash., D.C. Room 1E926 ... Reqs. 273-C, 270-C ... (5 Bylaw)	171

Department	Copies
Commerce: Room 6862, 14th & Const. Ave. NW. Req. 44 .... (5 Bylaw)	56
Health, Education & Welfare: Legislative Materials Officer, Room C-410, North HEW Bldg., 330 Independence Ave. SW ... Req. OA-20 .... (5 Bylaw)	66
~~Health, Education & Welfare:~~ ~~Legislative Materials Officer, HEW-OMDS Rm. 0466 HEW North Bldg., 330 Independence Ave. SW .... Req. OA-213~~	~~60~~
Housing & Urban Development: Room 9252, 451 7th St. SW .... Req. 64 (5 Bylaw)	80
Interior: Room 1617, 18th & C St. NW .... Req. 77 (5 Bylaw)	90
Justice: Room B-216, Deputy Attorney General, 10th & Constitution Ave. NW .... Req. 4 (5 Bylaw)	23
Labor: Room S1-86, 200 Constitution Ave. NW. Req. 78 .... (5 Bylaw)	34
Library of Congress: Congressional Research Service, 1st & Independence Ave. SE. Receiving Platform, Rear Main Bldg. (2d St. Entrance) Bylaw	10
Navy: Eisenhower Warehouse #1, 5208 Eisenhower Avenue, Alexandria, Virginia 22304, Marked Supt. Doc., M/F Navy Distribution .... Req. 216 (5 Bylaw)	71
Navy: O.S.D. East Loading Platform, Pentagon, Mr. Windon, Room 4A948 ... Req. O-124	30
State: New State Bldg., Room B-844, 320 21st St. NW .... Req. 9 (10 Bylaw)	90
Superintendent of Documents: U.S. Government Printing Office Public Documents Warehouse, Attn: Subscription Stock, 8610 Cherry Lane, Laurel, Md. 20810 .... Req. 416	10
Treasury: Doc. Clerk, Room 1320, 15th & Pennsylvania NW ... Req. 19 .... (5 Bylaw)	20
Superintendent of Documents: U.S. GPO Public Documents Warehouse, 5236 Eisenhower Ave., Alexandria, Va. 22304, Attn: Depository Distribution Division .... Bylaw	420
Transportation: DOT/OST/DIST. OPER. U. TAD-492.41 400 7th St., SW., P-2 Level ... Req. 5-0002	43
Federal Energy Administration: Federal Bldg., Room B-311, 12th & Pa. Ave .... Req. 608	20

	BYLAW	REQUISITIONS
Board A	107	712 ~~762~~
Board B	100 ~~101~~	171 ~~172~~
Total	207 ~~208~~	934
DEP	(420)	~~854~~

GENERAL SERVICES ADMINISTRATION
NATIONAL ARCHIVES

LIST ID	TITLE	RECORDS	COPIES
FR	* Federal Register	8,608	12,570
PD	* Weekly Compilation of Presidential Documents	3,847	6,840
PPPUS	Public Papers of the Presidents of the United States	281	327
[illegible]	* Code of Federal Regulations (All Titles)	159	7,041
[illegible]	CFR Title 1 & 2	33	756
[illegible]	CFR Title 3	38	540
[illegible]	CFR Title 4	33	680
[illegible]	CFR Title 5	98	1,362
[illegible]	CFR Title 6	27	602
[illegible]	CFR Title 7 (Issued in Parts)	15	540
[illegible]	CFR Title 8	17	380
[illegible]	CFR Title 9	10	490
[illegible]	CFR Title 10 (Issued in Parts)	21	613
[illegible]	CFR Title 11	15	380
[illegible]	CFR Title 12 (Issued in Parts)	33	600
[illegible]	CFR Title 13	23	653
[illegible]	CFR Title 14 (Issued in Parts)	17	575
[illegible]	CFR Title 15	22	460
[illegible]	CFR Title 16 (Issued in Parts)	22	628
[illegible]	CFR Title 17	32	408
[illegible]	CFR Title 18 (Issued in Parts)	20	507
[illegible]	CFR Title 19	10	461
[illegible]	CFR Title 20 (Issued in Parts)	39	610

DEPARTMENT OF AGRICULTURE (Continued)

LIST ID	TITLE	RECORDS	COPIES
AR521	Miscellaneous Addresses to Receive Reports on Improvement and Utilization of Equipment, Loading Methods and In-Transit Damage of Grain Products, Oilseeds, and Fats and Oils	55	55
AR522	Miscellaneous Addresses to Receive Reports on Improvement and Utilization of Equipment Loading Methods and In-Transit Damage of Livestock, Meats and Dairy Products	29	29
AR523	Miscellaneous Addresses to Receive Reports on Improvement and Utilization of Equipment Loading Methods and In-Transit Damage of Poultry and Poultry Products	18	18
AR524	Miscellaneous Addresses to Receive all Reports on Refrigeration in Transportation and Frozen Foods	80	81
AR525	Rail Carriers only to Receive Reports on Refrigeration in Transportation and Frozen Foods	28	28
AR526	Motor Carriers only to Receive Reports on Refrigeration in Transportation and Frozen Foods	25	25
AR527	Miscellaneous Addresses to Receive Research Reports on Containers and Packaging	1,248	1,289
AR528	Cooperators, Scientists and Institutions Interested in Plant Introduction	60	60
AR529	Classified List (BPI) Bureau of Plant Industry	37	38
AR530	Miscellaneous Addresses to Receive Research Publications Issued by Agricultural Engineering Research Branch A.R.S.	21	21
AR531	Miscellaneous Addresses to Receive Research Publications Issued by the Field Crops Research Branch A.R.S.	239	447
AR532	Miscellaneous Addresses to Receive Research Publications Issued by the Horticultural Crops Research Branch A.R.S.	485	485

EXHIBIT A-5

EXHIBIT A-6a

SUMMARY OF CONGRESSIONAL PRINTING BY CHARGING SOURCE

OCT THRU SEP 1977

FISCAL YEAR PERIOD	BILLED DATE MO.,YR.	CHARGING SOURCE		AMOUNT
77		001	HOUSE - HOUSE	3,010,461.00
77		002	HOUSE - CLERK OF HOUSE	42,366.00
77		003	HOUSE - HOUSE MEMBERS	9,676.00
77		004	HOUSE - AGRICULTURE	158,705.00
77		005	HOUSE - APPROPRIATIONS	2,377,605.00
77		006	HOUSE - ARMED SERVICES	907,611.00
77		007	HOUSE - BANKING AND CURRENCY	140,898.00
77		008	HOUSE - DISTRICT OF COLUMBIA	78,667.00
77		009	HOUSE - EDUCATION AND LABOR	503,695.00
77		010	HOUSE - FOREIGN AFFAIRS	670,575.00
77		011	HOUSE - GOVERNMENT OPERATIONS	532,796.00
77		012	HOUSE - HOUSE ADMINISTRATION	19,636.00
77		013	HOUSE - INTERIOR AND INSULAR AFFAIRS	622,173.00
77		014	HOUSE - INTERSTATE AND FOREIGN COMMERCE	861,818.00
77		015	HOUSE - JUDICIARY	600,399.00
77		016	HOUSE - MERCHANT MARINE AND FISHERIES	293,794.00
77		017	HOUSE - POST OFFICE AND CIVIL SERVICE	267,010.00
77		018	HOUSE - PUBLIC WORKS	278,763.00
77		019	HOUSE - RULES	5,631.00
77		020	HOUSE - SCIENCE AND ASTRONAUTICS	695,628.00
77		022	HOUSE - VETERANS AFFAIRS	96,680.00
77		023	HOUSE - WAYS AND MEANS	636,378.00
77		024	HOUSE - SELECT COMM. ON PROBLEMS OF SMALL BUS.	317,661.00
77		026	HOUSE - COMMITTEE ON STANDARDS OF OFFICIAL CONDUCT	2,691.00
77		030	HOUSE - COMMITTEE ON CONGRESSIONAL MAILING STANDARDS	15,566.00
77		031	HOUSE - COMMITTEE ON THE BUDGET	150,239.00
77		032	HOUSE - SELECT COMMITTEE ON AGING	52,986.00
77		033	HOUSE - SELECT COMMITTEE ON MISSING PERSONS IN SOUTH EAST ASIA	520.00
77		034	HOUSE - SELECT COMMITTEE ON THE OUTER CONTINENTAL SHELF	6,077.00
77		036	HOUSE - SELECT COMMITTEE ON NARCOTICS ABUSE AND CONTROL	90,606.00
77		037	HOUSE - SELECT COMMITTEE ON PROFESSIONAL SPORTS	66,075.00
77		038	HOUSE - SELECT COMMITTEE ON ASSASSINATIONS	835.00
				12,261,150.00 *
77		041	SENATE - SENATE	6,766,061.00
77		042	SENATE - SECY. OF SENATE	86,909.00
77		043	SENATE - SENATE MEMBERS	275.00
77		044	SENATE - AERONAUTICAL AND SPACE SCIENCES	35,796.00
77		045	SENATE - AGRICULTURE AND FORESTRY	678,162.00
77		046	SENATE - APPROPRIATIONS	552,506.00
77		047	SENATE - ARMED SERVICES	430,952.00
77		048	SENATE - BANKING, HOUSING, AND URBAN AFFAIRS	327,433.00
77		049	SENATE - COMMERCE	556,471.00
77		050	SENATE - DISTRICT OF COLUMBIA	13,570.00

EXHIBIT A-[illegible]

TOTAL BILLINGS BY CLASSIFICATION

[illegible]

CLASS	DESCRIPTION	AMOUNT
01	[illegible]	[illegible]
02	[illegible]	[illegible]
03	[illegible]	[illegible]
04	[illegible]	[illegible]
05	[illegible]	[illegible]
06	[illegible]	[illegible]
07	[illegible]	[illegible]
08	[illegible]	[illegible]
09	[illegible]	[illegible]
10	[illegible]	[illegible]
11	[illegible]	[illegible]
12	[illegible]	[illegible]
13	[illegible]	[illegible]
14	[illegible]	[illegible]
		[illegible]

EXHIBIT [illegible]

[illegible]

EXHIBIT A-6d

LUMP SUM BILLINGS

FISCAL YEAR-ORDERED	BILLED DATE MO.YR.	ORDERING-SOURCE	CLASS-	JACKET-NUMBER	REQ.-NO.	TITLE	COPIES	AMOUNT
77	3 77	099	4			INTERNATIONAL EXCHANGE	193,725	54,756.00
77	3 77	099	5			FRANKED ENVELOPES & DOC. FRANKS	3,797,200	64,964.00
77	3 77	099	7			BILLS,RESOLUTIONS,+AMDTS.	7,071,001	1,679,641.00
77	3 77	099	8			COMMITTEE REPORTS	133,434	222,652.00
77	3 77	099	9			DOCUMENTS	91,196	108,352.00
77	3 77	099	11			FEDERAL REGISTER	1,082,340	989,309.00
77	3 77	099	12			CODE OF FEDERAL REGULATIONS	50,910	33,175.00
77	3 77	099	14			AUTOMATION OF FEDERAL REGULATIONS		9,279.00
								4,269,856.00 *
77	4 77	099	3			MISC. PRINTING & BINDING	13,880,674	940,368.00
77	4 77	099	4			INTERNATIONAL EXCHANGE	133,300	52,794.00
77	4 77	099	5			FRANKED ENVELOPES & DOC. FRANKS	4,490,000	61,836.00
77	4 77	099	7			BILLS,RESOLUTIONS, & AMDTS.	3,864,088	943,646.00
77	4 77	099	8			COMMITTEE REPORTS	143,099	181,284.00
77	4 77	099	9			DOCUMENTS	42,384	77,082.00
77	4 77	099	11			FEDERAL REGISTER	1,283,531	1,179,796.00
77	4 77	099	12			CODE OF FEDERAL REGULATIONS	88,588	327,878.00
77	4 77	099	14			AUTOMATION OF FEDERAL REGULATIONS		18,418.00
								3,783,102.00 *
77	5 77	099	3			MISC. PRINTING + BINDING	15,798,676	1,034,782.00
77	5 77	099	4			INTERNATIONAL EXCHANGE	85,304	37,543.00
77	5 77	099	5			FRANKED ENVELOPES & DOC. FRANKS	3,050,750	85,655.00
77	5 77	099	7			BILLS, RESOLUTIONS, & AMDTS.	1,257,683	773,243.00
77	5 77	099	8			COMMITTEE REPORTS	271,295	212,249.00
77	5 77	099	9			DOCUMENTS	87,275	76,430.00
77	5 77	099	11			FEDERAL REGISTER	1,177,911	952,693.00
77	5 77	099	12			CODE OF FEDERAL REGULATIONS	24,118	195,585.00
77	5 77	099	14			AUTOMATION OF FEDERAL REGULATIONS		21,924.00
								3,390,104.00 *
77	6 77	099	3			MISC. PRINTING + BINDING	17,682,073	1,034,117.00
77	6 77	099	4			INTERNATIONAL EXCHANGE	72,504	62,569.00
77	6 77	099	5			FRANKED ENVELOPES & DOC. FRANKS	7,856,500	98,316.00
77	6 77	099	7			BILLS, RESOLUTIONS, & AMDTS.	2,788,767	[illegible],245,124.00

DETACH THIS PAGE AND RETURN TO MEMBER OF CONGRESS

CHECKLIST FOR NUMBERS PRECEDED BY THE LETTER F

☐ 1043
☐ 1863
☐ 1537
☐ 1584
☐ 1869
☐ 1875
☐ 1889
☐ 1897
☐ 1972

☐ 2035
☐ 2088
☐ 2107
☐ 2123
☐ 2125
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☐ 3-6-1
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☐ 4-3-1
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☐ 4-5-3
☐ 8-9-1
☐ 8-13-1

FOR QUICK DELIVERY—Put total number of bulletins checked here . . .
Publications available as of January 1978.

List of Publications Available for Distribution by Members of Congress

(Items in stock as of January 1978 are listed. Unforeseen demands may exhaust supplies, and therefore an occasional item may be out of stock when your order is received.)

GUIDE TO SUBJECTS

	Page
Beekeeping	3
Buildings	3
Canning—freezing—storing	3
Cooking	3
Electrical equipment and practices	4
Farm management	4
Fertilizers	4
Flowers—shrubs—trees	4
Food buying guides	4
Forage crops	4-5
Forestry	5
Fruits—nuts	5
Grains	5
Grasses	5
Home management	5
Insects	5
Livestock and small animals	5-6
Nutrition	6
Poultry	6
Safety	6
Soil and water conservation	6
Vegetables and truck gardening	6-7
Weeds	7

BEEKEEPING

G 158 Beekeeping for beginners.
L 530 Shade and water for the honey bee colony.
L 544 Protecting honey bees from pesticides.
L 549 Using honey bees to pollinate crops.
L 563 Pesticides and honey bees.
F 2204 Selecting and operating beekeeping equipment.
F 2255 Identification and control of honey bee diseases.

BUILDINGS

(Materials, Construction, Protection)

G 73 Wood decay in houses . . . how to prevent and control it.
G 168 House construction . . . how to reduce costs.
G 184 Interior painting in homes and around the farm.
G 203 Wood siding . . . installing . . . finishing . . . maintaining.
G 212 Renovate an old house?
L 535 Building with adobe and stabilized-earth blocks.
F 1869 Foundations for farm buildings.
F 1889 Fireplaces and chimneys.
F 2170 Roofing farm buildings.

BUILDINGS—Continued

F 2202 Simple plumbing repairs for the home and farmstead.
F 2203 Use of concrete on the farm.
F 2213 Plumbing for the home and farmstead.
F 2227 Fire resistant construction . . . of the home . . . of farm buildings.
F 2235 Home heating . . . systems, fuels, controls.
F 2251 Solar heating for milking parlors.

CANNING—FREEZING—STORING

G 8 Home canning of fruits and vegetables.
G 10 Home freezing of fruits and vegetables.
G 40 Freezing combination main dishes.
G 56 How to make jellies, jams, and preserves at home.
G 69 Home care of purchased frozen foods.
G 78 Storing perishable foods in the home.
G 93 Freezing meat and fish in the home.
G 106 Home canning of meat and poultry.
G 119 Storing vegetables and fruits in basements, cellars, outbuildings, and pits.
G 162 Keeping food safe to eat . . . a guide for homemakers.
G 217 Drying foods at home.
F 2125 Making and preserving apple cider.

IMPORTANT—When selecting bulletins, check opposite number on page 2 and give total number checked.

EXHIBIT A-7

COOKING

G 1 Family fare . . . a guide to good nutrition.
G 103 Eggs in family meals . . . a guide for consumers.
G 110 Poultry in family meals . . . a guide for consumers.
G 112 Cheese in family meals . . . a guide for consumers.
G 118 Beef and veal in family meals . . . a guidp for consumers.
G 124 Lamb in family meals.
G 125 Fruits in family meals . . . a guide for consumers.
G 127 Milk in family meals . . . a guide for consumers.
G 129 Making cottage cheese at home.
G 147 Baking for people with food allergies.
G 160 Pork in family meals . . . a guide for consumers.
G 161 Apples in appealing ways.
G 176 Nuts in family meals . . . a guide for consumers.
G 186 Breads, cakes, and pies in family meals . . . a guide for consumers.
G 208 Soybeans in family meals.
G 209 Food for the family—a cost-saving plan.
G 215 Aunt Sammy's radio recipes.

ELECTRICAL EQUIPMENT AND PRACTICES

L 395 Automatic livestock waterers.
L 445 Electric heating of hotbeds.
F 2243 Farm lighting.
F 2237 Selecting and using electric motors.

FARM MANAGEMENT

L 422 Where and how to get a farm . . . some questions and answers.
F 2135 What young farm families should know about credit.
F 2164 Your farm lease contract.
F 2167 Family-farm records.
F 2170 Father-son agreements for operating farms.
F 2237 Water supply sources for the farmstead and rural home.
F 2247 Fences for the farm and rural home.
F 2248 Treating farmstead and rural home water systems.

FERTILIZERS

G 89 Selecting fertilizers for lawns and gardens.
AFS 4–3–1 Signs of crop hunger.
AFS 4–5–1 Making and using compost.
AFS 4–5–3 Animal manure for crop production.

FLOWERS, SHRUBS, AND TREES

G 25 Roses for the home.
G 65 Growing chrysanthemums in the home garden.
G 66 Growing iris in the home garden.
G 67 Insects and related pests of house plants.
G 71 Growing azaleas and rhododendrons.
G 80 Home propagation of ornamental trees and shrubs.
G 81 Maple diseases and their control . . . a guide for homeowners.
G 82 Selecting and growing house plants.
G 83 Pruning shade trees and repairing their injuries.
G 86 Growing camellias.
G 88 Growing the flowering dogwood.
G 91 Growing flowering annuals.
G 102 Iron deficiency in plants: how to control it in yards and gardens.
G 104 Protecting shade trees during home construction.
G 114 Growing flowering perennials.
G 117 Trees for shade and beauty.
G 128 Growing boxwoods.
G 130 Growing hollies.
G 131 Growing dahlias.
G 135 Growing flowering crabapples.
G 136 Spring flowering bulbs.
G 142 Selecting shrubs for shady areas.
G 140 Growing pansies.
G 151 Summer flowering bulbs.
G 152 Growing gardenias.
G 154 Growing the Bradford ornamental pear.
G 165 Pruning ornamental shrubs and vines.
G 175 Growing ground covers.
G 181 Shrubs, vines, and trees for summer color.
G 188 Growing ornamentals in urban gardens.
G 189 How to buy a Christmas tree.
G 192 Transplanting ornamental trees and shrubs.
G 190 Growing lilacs.
G 205 Selecting and growing shade trees.
G 206 Growing bonsai.
L 444 The narcissus bulb fly . . . how to prevent its damage in home gardens.
L 560 Bark mulch . . . natural artistry around your house.

FOOD BUYING GUIDES

G 141 How to buy fresh fruits.
G 143 How to buy fresh vegetables.
G 144 How to buy eggs.
G 145 How to buy beef steaks.
G 146 How to buy beef roasts.
G 157 How to buy poultry.
G 166 How to buy meat for your freezer.
G 167 How to buy canned and frozen vegetables.

IMPORTANT—When selecting bulletins, check opposite number on page 2 and give total number checked.

FOOD BUYING GUIDES—Continued

G 177 How to buy dry beans, peas, and lentils.
G 191 How to buy canned and frozen fruits.
G 193 How to buy cheese.
G 195 How to buy lamb.
G 196 How to use USDA grades in buying foods.
G 198 How to buy potatoes.

FORAGE CROPS

L 531 Growing red clover.
F 2230 Irrigated pastures for forage production and soil conservation in the West.
F 2245 Sericea lespedeza . . . its use and management.

FORESTRY

L 487 Planting black walnut for timber.
L 559 Firewood for your fireplace . . . selection, purchase, use.

FRUITS—NUTS

G 204 Growing apricots for home use.
G 207 Thornless blackberries for the home garden.
G 211 Control of insects on deciduous fruits and tree nuts in the home orchard without insecticides.
L 172 Why fruit trees fail to bear.
L 187 Blight of pears, apples, and quinces.
L 407 Dwarf fruit trees.
L 396 Bridge grafting and inarching damaged fruit trees.
L 518 The chip-bud method of propagating vinifera grape varieties on rootstocks.
L 525 Growing black walnuts for home use.
F 1043 Strawberry varieties in the United States.
F 1897 Establishing and managing young apple orchards.
F 2123 Growing American bunch grapes.
F 2157 Muscadine grapes—a fruit for the South.
F 2185 Growing cherries East of the Rocky Mountains.
F 2246 Growing strawberries in the Southeastern and Gulf Coast States.

GRAINS

L 563 Controlling insects in farm-stored grain.
F 2214 Drying shelled corn and small grains.
AFS 1–2–1 Resources required to enter grain farming.

GRASSES

G 61 Lawn diseases . . . how to control them.
G 169 How to buy lawn seed.
L 346 Grass . . . the rancher's crop.

HOME MANAGEMENT

G 62 Removing stains from fabrics.
G 68 How to prevent and remove mildew . . . home methods.
G 94 Family food budgeting . . . for good meals and good nutrition.
G 97 Sanitation in home laundering.
G 98 A guide to budgeting for the young couple.
G 106 A guide to budgeting for the family.
G 182 Selecting and financing a home.
G 183 Your money's worth in foods.
L 221 What to do when your home freezer stops.

INSECTS

G 64 Subterranean termites . . . their prevention and control in buildings.
G 75 The European earwig . . . how to control it around the home.
G 96 Controlling household pests.
G 121 Controlling fleas.
G 137 Controlling chiggers.
G 159 Controlling the Japanese beetle.
G 178 Controlling the Eastern tent caterpillar.
G 200 Be safe from insects in recreation areas.
L 299 Preventing greenbug outbreaks.
L 390 The housefly . . . how to control it.

IMPORTANT—When selecting bulletins, check opposite number on page 2 and give total number checked.

EXHIBIT A-7, Cont.

INSECTS—Continued

L 453 How to control bedbugs.
L 500 Milky disease . . . for control of Japanese beetle grubs.
L 501 The old house borer.
L 548 Controlling the Mexican bean beetle.
F 2106 Grasshopper control.

LIVESTOCK AND SMALL ANIMALS

L 429 Trichinosis.
L 430 The meat-type hog.
L 450 Horse bots . . . how to control them.
L 493 The common liver fluke in sheep.
L 546 Fescue foot in cattle . . . what to do about it.
L 561 Controlling grass tetany.
F 1263 Breeds of swine.
F 1584 Feedlot and ranch equipment for beef cattle.
F 2088 Infectious anemia (swamp fever) of horses, mules, and donkeys.
F 2126 The farm beef herd.
F 2138 Slaughtering, cutting, and processing pork on the farm.
F 2190 Forage and cattle management in longleaf slash pine forests.
F 2206 Foot rot of sheep.
F 2224 Raising livestock on small farms.
F 2228 Beef cattle breeds.
F 2253 What you can do about bovine mastitis.
F 2263 Beef slaughtering, cutting, preserving, and cooking on the farm.
F 2264 Lamb slaughtering, cutting, preserving, and cooking on the farm.

NUTRITION

GS–1 Nutrition . . . food at work for you.
G 17, Food guide for older folks.
G 72 Nutritive value of foods.
G 74 Food and your weight.

NUTRITION—Continued

G 90 Conserving the nutritive values in foods.
G 216 Food is more than just something to eat.
L 424 Food for fitness . . . a daily food guide.

POULTRY

L 382 The fowl tick . . . how to control it.
L 390 Cecal coccidiosis of chickens . . . how to control it.
L 519 Raising guinea fowl.
F 2197 Farm poultry management.
F 2215 Raising ducks.
F 2251 Raising geese.
AFS 3–6–1 Brooding and rearing chicks for the family flock.
AFS 3–6–2 Keeping layers for the family egg supply.

SAFETY

G 77 Family food stockpile for survival.
F 2107 Defense against radioactive fallout on the farm.
F 2136 Lighting protection for the farm.

SOIL AND WATER CONSERVATION

G 210 Drainage around your home.
L 335 Farming terraced land.
L 452 Replenishing underground water supplies on the farm.
L 458 Autumn olive for wildlife and other conservation uses.
L 476 Sprinkler irrigation.
L 477 Grass waterways in soil conservation.
L 517 Russian-olive for wildlife and other conservation uses.
L 552 Trout farming . . . could trout farming be profitable for you?
L 554 Mulch tillage in modern farming.
L 557 Maintaining subsurface drains.
L 562 Maintaining watercourses.

IMPORTANT—When selecting bulletins, check opposite number on page 2 and give total number checked.

SOIL AND WATER CONSERVATION—Continued

F 2035 Making land produce useful wildlife.
F 2171 How to control a gully.
F 2231 Ponds and marshes for wild ducks on farms and ranches in the Northern Plains.
F 2249 Trout ponds for recreation.
F 2250 Warm-water fishponds.
F 2256 Building a pond.
F 2258 Inspecting and cleaning subsurface drain systems.
F 2260 Catfish farming.

VEGETABLES AND TRUCK GARDENING

G 163 Minigardens for vegetables.
G 170 Gardening on the contour.
G 180 Growing tomatoes in the home garden.
G 185 Mulches for your garden.
G 202 Growing vegetables in the home garden.

VEGETABLES AND TRUCK GARDENING—Continued

L 360 Growing table beets.
L 555 Rhubarb production.
F 1875 Mushroom growing in the United States.
F 2148 Aphids on leafy vegetables . . . how to control them.
F 2200 Controlling tomato diseases.
AFS 8–9–1 Starting plants from seed.
AFS 8–13–1 Vegetable harvest and storage.

WEEDS

L 523 Canada thistle and its control.
F 1537 Johnsongrass . . . as a weed.
F 1972 Poison ivy, poison oak, and poison sumac . . . identification, precautions, eradication.
F 2183 Using phenoxy herbicides effectively.
F 2211 Controlling dodder in alfalfa.

IMPORTANT.—When selecting bulletins, check opposite number on page 2 and give total number checked.

NOTE

For answers to questions and specialized advice on agriculture and related subjects, please contact your local Cooperative Extension Service Office, usually located at the county seat.

EXHIBIT A-7, Cont.

EXHIBIT A-8

PUBLICATIONS AVAILABLE FOR DISTRIBUTION BY MEMBERS OF CONGRESS TO HOMEMAKERS AND RESIDENTS OF CITIES AND TOWNS

(Items in stock as of January 1978 are listed. Unforeseen demands may exhaust supplies, and therefore an occasional item may be out of stock when your order is received.)

Leaflets

- ☐ L 321 What to do when your home freezer stops.
- ☐ L 390 The house fly . . . how to control it.
- ☐ L 424 Food for fitness . . . a daily food guide.
- ☐ L 444 The narcissus bulb fly . . . how to prevent its damage in home gardens.
- ☐ L 453 How to control bedbugs.
- ☐ L 500 Milky disease . . . for control of Japanese beetle grubs.
- ☐ L 559 Firewood for your fireplace.
- ☐ L 560 Bark mulch . . . natural artistry around your house.

Home and Garden Bulletins

- ☐ G 1 Family fare—a guide to good nutrition.
- ☐ G 8 Home canning of fruits and vegetables.
- ☐ G 10 Home freezing of fruits and vegetables.
- ☐ G 17 Food guide for older folks.
- ☐ G 25 Roses for the home.
- ☐ G 40 Freezing combination main dishes.
- ☐ G 61 Lawn diseases . . . how to control them.
- ☐ G 62 Removing stains from fabrics.
- ☐ G 64 Subterranean termites . . . their prevention and control in buildings.
- ☐ G 65 Growing chrysanthemums in the home garden.
- ☐ G 66 Growing iris in the home garden.
- ☐ G 67 Insects and related pests of house plants.
- ☐ G 68 How to prevent and remove mildew . . . home methods.
- ☐ G 69 Home care of purchased frozen foods.
- ☐ G 71 Growing azaleas and rhododendrons.
- ☐ G 73 Wood decay in houses . . . how to prevent and control it.
- ☐ G 74 Food and your weight.
- ☐ G 77 Family food stockpile for survival.
- ☐ G 78 Storing perishable foods in the home.
- ☐ G 80 Home propagation of ornamental trees and shrubs.
- ☐ G 81 Maple diseases and their control . . . a guide for homeowners.
- ☐ G 82 Selecting and growing house plants.
- ☐ G 83 Pruning shade trees and repairing their injuries.
- ☐ G 86 Growing camellias.
- ☐ G 88 Growing the flowering dogwood.
- ☐ G 89 Selecting fertilizers for lawns and gardens.
- ☐ G 90 Conserving the nutritive values in foods.
- ☐ G 93 Freezing meat and fish in the home.
- ☐ G 94 Family food budgeting . . . for good meals and good nutrition.
- ☐ G 96 Controlling household pests.
- ☐ G 97 Sanitation in home laundering.
- ☐ G 98 A guide to budgeting for the young couple.

Home and Garden Bulletins—Continued

- ☐ G 102 Iron deficiency in plants: how to control it in yards and gardens.
- ☐ G 103 Eggs in family meals . . . a guide for consumers.
- ☐ G 104 Protecting shade trees during home construction.
- ☐ G 106 Home canning of meat and poultry.
- ☐ G 108 A guide to budgeting for the family.
- ☐ G 110 Poultry in family meals . . . a guide for consumers.
- ☐ G 112 Cheese in family meals . . . a guide for consumers.
- ☐ G 114 Growing flowering perennials.
- ☐ G 117 Trees for shade and beauty.
- ☐ G 118 Beef and veal in family meals.
- ☐ G 120 Growing boxwoods.
- ☐ G 121 Controlling fleas.
- ☐ G 124 Lamb in family meals.
- ☐ G 125 Fruits in family meals . . . a guide for consumers.
- ☐ G 127 Milk in family meals . . . a guide for consumers.
- ☐ G 129 Making cottage cheese at home.
- ☐ G 130 Growing hollies.
- ☐ G 131 Growing dahlias.
- ☐ G 135 Growing flowering crabapples.
- ☐ G 136 Spring flowering bulbs.
- ☐ G 137 Controlling chiggers.
- ☐ G 141 How to buy fresh fruits.
- ☐ G 142 Selecting shrubs for shady areas.
- ☐ G 143 How to buy fresh vegetables.
- ☐ G 145 How to buy beefsteaks.
- ☐ G 146 How to buy beef roasts.
- ☐ G 147 Baking for people with food allergies.
- ☐ G 149 Growing pansies.
- ☐ G 151 Summer flowering bulbs.
- ☐ G 152 Growing gardenias.
- ☐ G 154 Growing the Bradford ornamental pear.
- ☐ G 157 How to buy poultry.
- ☐ G 159 Controlling the Japanese beetle.
- ☐ G 160 Pork in family meals . . . a guide for consumers.
- ☐ G 161 Apples in appealing ways.
- ☐ G 162 Keeping food safe to eat . . . a guide for homemakers.
- ☐ G 163 Minigardens for vegetables.
- ☐ G 165 Pruning ornamental shrubs and vines.
- ☐ G 166 How to buy meat for your freezer.
- ☐ G 167 How to buy canned and frozen vegetables.
- ☐ G 168 House construction . . . how to reduce costs.
- ☐ G 169 How to buy lawn seed.
- ☐ G 176 Nuts in family meals . . . a guide for consumers.
- ☐ G 177 How to buy dry beans, peas, and lentils.

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Home and Garden Bulletins—Continued

- ☐ G 178 Controlling the Eastern tent caterpillar.
- ☐ G 180 Growing tomatoes in the home garden.
- ☐ G 181 Shrubs, vines, and trees for summer color.
- ☐ G 182 Selecting and financing a home.
- ☐ G 183 Your money's worth in foods.
- ☐ G 184 Interior painting in homes and around the farm.
- ☐ G 185 Mulches for your garden.
- ☐ G 186 Breads, cakes, and pies in family meals . . . a guide for consumers.
- ☐ G 188 Growing ornamentals in urban gardens.
- ☐ G 189 How to buy a Christmas tree.
- ☐ G 191 How to buy canned and frozen fruits.
- ☐ G 192 Transplanting ornamental trees and shrubs.
- ☐ G 193 How to buy cheese.
- ☐ G 195 How to buy lamb.
- ☐ G 196 How to use USDA grades in buying foods.
- ☐ G 198 How to buy potatoes.
- ☐ G 199 Growing lilacs.
- ☐ G 200 Be safe from insects in recreation areas.
- ☐ G 202 Growing vegetables in the home garden.
- ☐ G 203 Wood siding . . . installing . . . finishing . . . maintaining.
- ☐ G 204 Growing apricots for home use.
- ☐ G 205 Selecting and growing shade trees.
- ☐ G 206 Growing bonsai.
- ☐ G 207 Thornless blackberries for the home garden.
- ☐ G 208 Soybeans in family meals.
- ☐ G 209 Food for the family . . . a cost-saving plan.
- ☐ G 210 Drainage around your home.
- ☐ G 211 Control of insects on deciduous fruits and tree nuts in the home orchard without insecticides.
- ☐ G 212 Renovate an old house?
- ☐ G 215 Aunt Sammy's radio recipes.
- ☐ G 216 Food is more than just something to eat.
- ☐ G 217 Drying foods at home.
- ☐ GS 1 Nutrition . . . food at work for you.

AGRICULTURE FACT SHEETS

- ☐ AFS 3- 6-1 Brooding and rearing chicks for the family flock.
- ☐ AFS 3- 6-2 Keeping layers for the family egg supply.
- ☐ AFS 4- 5-1 Making and using compost.
- ☐ AFS 8- 9-1 Starting plants from seed.
- ☐ AFS 8-13-1 Vegetable harvest and storage.

Put Total Number of Bulletins Checked Here________

Congressional List No. 3—January 1978

Exhibit A-9

Title	Citations/Authorizations U.S.C.	Cong. Res.	Issuing Agency	Primary Distribution Points	Primary Cost Basis for Distribution
U.S. Code and Supplements	1 U.S.C. #210-11-44-728-212		Administrative Office U.S. Courts	A, B, C, D	Free/Subsidized
Semi-Annual Statement of Expenditures	2 U.S.C. 104(a)		Congress	A, B, C, D	Free
Statement of Appropriations	2 U.S.C. 105, 45 U.S.C.-725		"	"	"
Annual Report of Receipt and Expenditures	2 U.S.C. 113		"	"	"
Official Report of the Supreme Court	44 U.S.C. 44		U. S. Supreme Court	A, B, C	"
Public Laws	44 U.S.C. 701(b)		Congress	A 1-4, B, C	"
Committee Organization in the House	44 U.S.C. 701	117H	"	A, B, C	"
Our Flag	44 U.S.C. 701	536H	"	A, B, C, D	Free/Price
Constitution and Declaration of Indepen.	44 U.S.C. 701	537H	"	"	"
Constitution of the U.S. (pocketsize)	44 U.S.C. 701	538H	"	"	"
How Our Laws Are Made	44 U.S.C. 701	540H	"	"	"
Duties of the Speaker	44 U.S.C. 701	623H	"	A, B	Free
House documents unbound	44 U.S.C. 701(b)		"	A 1-4 B, C	"
Senate documents unbound	44 U.S.C. 701(b)		"	"	"
House public reports unbound	44 U.S.C. 701(b)-02-03		"	"	"
Senate public reports unbound	44 U.S.C. 701(b)-02-03-04		"	"	"
House private reports	44 U.S.C. 701(d)-03-04		"	"	"
Senate private reports	44 U.S.C. 701(d)-03-04		"	"	"
House public bills and Joint Res.	44 U.S.C. 703-04-06		"	"	"

Exhibit A-

Title	Citations/Authorizations U.S.C.	Cong. Res.	Issuing Agency	Primary Distribution Points	Primary Cost Basis for Distributio
Private bills introduced in the House	44 U.S.C. 703-04-06		Congress	A 1-4 B, C	Free
Senate public bills and Joint Res.	44 U.S.C. 703-04-06		"	"	"
House simple and concurrent res.	44 U.S.C. 703-04-06-01		"	"	"
Private bills reported or referred in House	44 U.S.C. 703-04-06-01		"	"	"
Private bills reported or referred in Senate	44 U.S.C. 703-04-06-01		"	"	"
Senate simple and concurrent res.	44 U.S.C. 703-04-06-01		"	"	"
Private bills introduced in the Senate	44 U.S.C. 704-06		"	"	"
Postal Conventions (in slip form)	44 U.S.C. 709		U.S. Postal Service	A, B, C, D	"
Private laws	44 U.S.C. 709		Congress	A 1-4 B, C	"
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